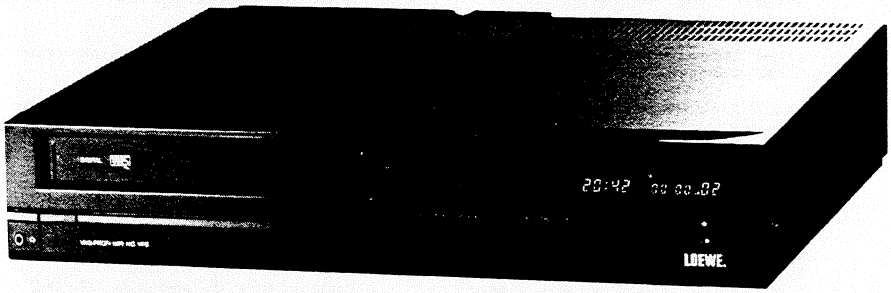
LOEWE.

Kundendienst-
Serviceanleitung

VHS

PAL SECAM VPS HiFi Digital



Sicherheitsvorschriften
Bei Reparaturarbeiten an den Geräten sind die Sicherheitsbestimmungen gemäß VDE 0860 und Nachträgen zu beachten und einzuhalten.
Spezielle Bauteile in den Geräten dürfen aufgrund ihres Aufbaues nur durch Originalteile ersetzt werden.
Außerdem sind die am Reparaturort gültigen Schutzbestimmungen der Bundesgenossenschaft beim Umgang mit diesen Geräten einzuhalten. Hierzu gehört auch die Beschaffenheit des Arbeitsplatzes.
Die Kenntnis dieser Vorschriften ist die Voraussetzung, um einen fachgemäßen Service der Geräte durchführen zu können.
Bei Betrieb dieser Geräte im Ausland sind die jeweiligen Schutzbestimmungen des Landes zu berücksichtigen und einzuhalten.

SAFETY PRECAUTIONS
The following precautions should be observed when servicing.
1. Since many parts in the unit have special safety-related characteristics, always use genuine LOEWE replacement parts. Especially critical parts in the power circuit block should not be replaced with other makes.
   Critical parts are marked with ⚠ in the schematic diagram and circuit board diagram.
2. Before returning a repaired unit to the customer, the service technician must thoroughly test the unit to ascertain that is completely safe to operate without danger of electrical shock.

Norme di sicurezza
Effettuando dei lavori di riparazione sugli apparecchi bisogna osservare e rispettare le disposizioni di sicurezza a norma VDE 0860 e appendici.
Componenti speciali negli apparecchi vanno sostituiti, causa la loro composizione, solo con ricambi originali. Vanno inoltre rispettate le disposizioni di sicurezza dell'ente di assicurazione contro gli infortuni sul lavoro in vigore nel luogo di riparazione. Ciò vale anche per le condizioni del posto di lavoro. La cognizione di tali norme costituisce la premessa per poter effettuare un'assistenza tecnica a regola d'arte.
Impiegando gli apparecchi all'estero occorre rispettare ed attenersi alle norme di sicurezza del rispettivo paese.

LOEWE-Video-Recorder
OC 570 H
Art.-Nr. 66557

230-90136.981

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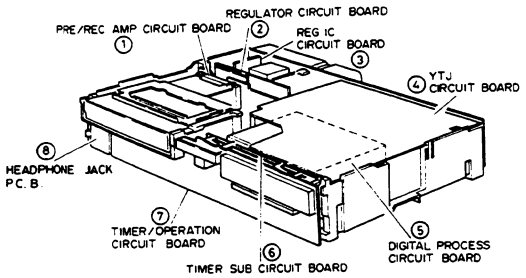
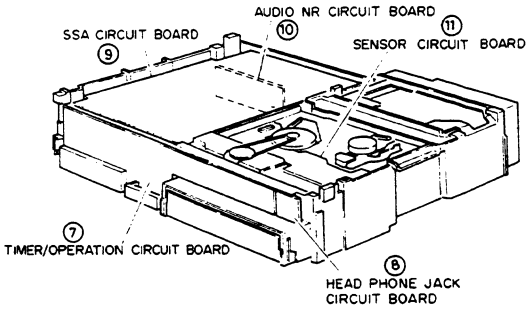
1. ANORDNUNG DER LEITERPLATTEN

1. P.C BOARD LOCATIONS

1. DISPOSIZIONE DELLE SCHEDE A C.S.



Bild/Fig.1 Draufsicht
Top View
Vista dall'alto



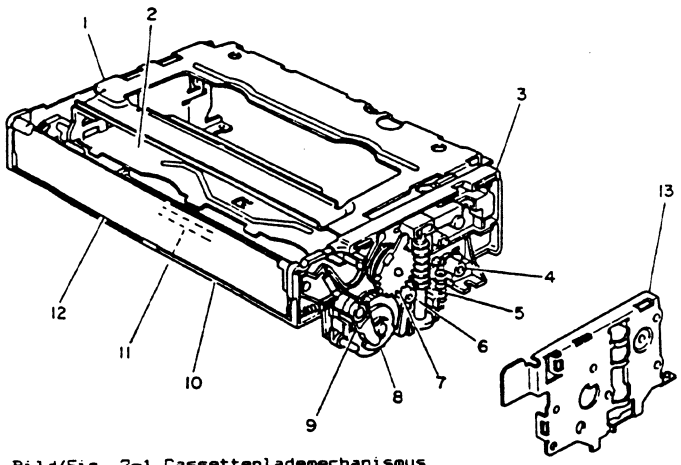
Bild/Fig.2 Unteransicht
Bottom View
Vista dal basso

1. Ltpl.Vor-/Aufnahmeverstärker	1. Pre/Rec Amp P.C.B	1. Piastra preamplificatore e amplificatore di registrazione
2. Ltpl. Stabilisierung	2. Regulator Circuit Board	2. Scheda regolatori
3. Ltpl. Stabilisierungs-IC	3. Reg. IC P.C.B	3. Piastra IC di stabilizzazione
4. Ltpl. YCT	4. YCT P.C.B	4. Scheda YCT
5. Ltpl. Digitalverarbeitung	5. Digital Process P.C.B	5. Scheda elaborazione digitale
6. Timer-Hilfsleiterplatte	6. Timer Sub P.C.B	6. Piastra ausiliaria del timer
7. Ltpl. Timer/Bedientasten	7. Timer/Operation P.C.B	7. Scheda Timer/Comando
8. Ltpl. Kopfhörerbuchse	8. Headphone Jack P.C.B	8. Piastra dell'auricolare
9. Ltpl. SSA	9. SSA P.C.B	9. Scheda SSA
10. Ltpl. Audio NR	10. Audio NR P.C.B	10. Scheda Audio NR
11. Ltpl. Sensor	11. Sensor P.C.B	11. Scheda sensori

2. LAGE DER MECHANISCHEN HAUPTKOMPONENTEN

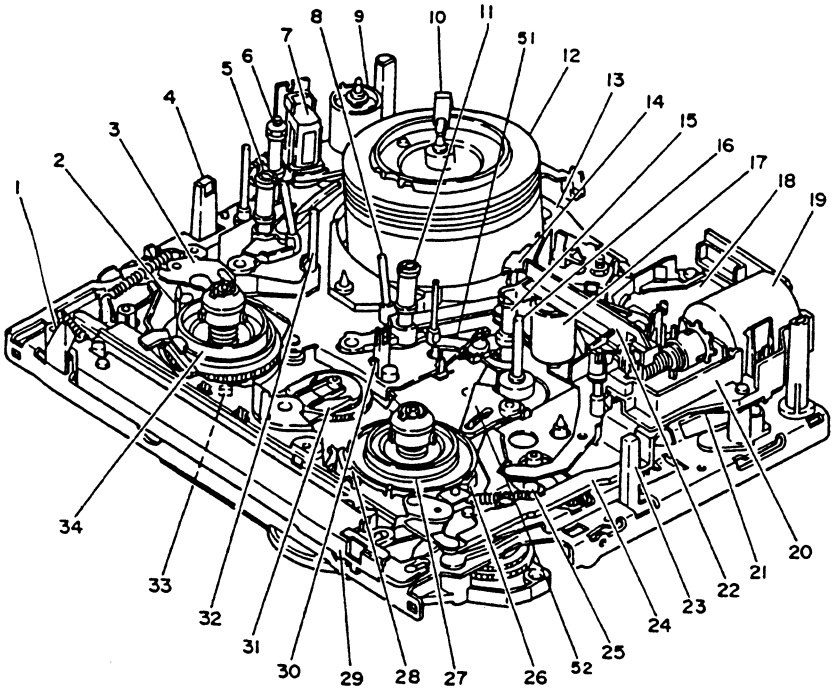
2. LOCATIONS OF MAIN MECHANICAL COMPONENTS

2. DISPOSIZIONE DEI COMPONENTI MECCANICI

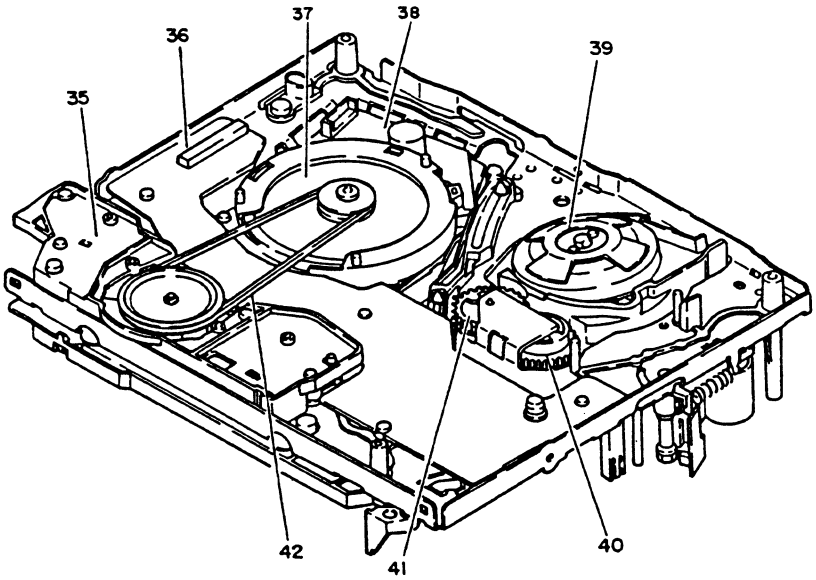


Bild/Fig. 2-1 Cassettenlademechanismus
Cassette Loading Mechanism
Meccanismo di carica cassetta

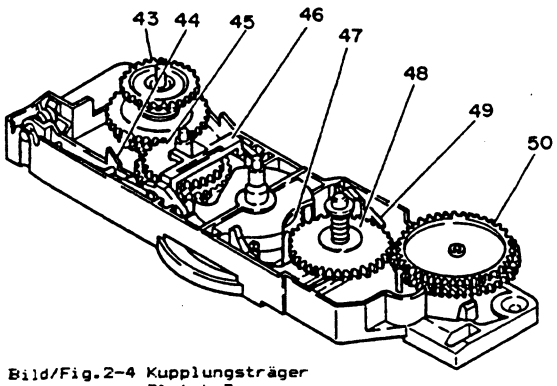
1. Chassishalterung	1. Chassis Holder	1. Supporto-chassis
2. Cassettenlift	2. Cassette Holder	2. Sistema caricamento videocassetta
3. Getriebeträger	3. Gear Bracket	3. Suppporto componenti meccaniche
4. Schalthebel B	4. Switch Lever B	4. Leva di commutazione B
5. FL-Schneckenantrieb	5. FL Worm Gear	5. Ingranaggio elicoidale di transmissione FL
6. Schalthebel A	6. Switch Lever A	6. Leva di commutazione A
7. Schneckenrad	7. Worm Wheel	7. Ingranaggio elicoidale
8. Antriebszahnrad	8. Drive Gear	8. Ruota dentata motrice
9. Klappenhebel	9. Door Arm	9. Levetta del portello cassetta
10. Fronthalterung	10. Front Holder	10. Supporto frontale
11. Achse	11. Shaft Pin	11. Asse
12. Cassettenschachtklappe	12. Cassette Door	12. Portello inserimento videocassetta
13. Seitenchassis	13. Side Chassis	13. Telaio laterale



Bild/Fig.2-2 Laufwerksdraufsicht
Top View of Mechanism
Veduta dall'alto del ruotismo



Bild/Fig.2-3 Laufwerksunteransicht
Bottom View of Mechanism
Vista dal di sotto del ruotismo



Bild/Fig.2-4 Kupplungsträger
Clutch Base
Supporto del giunto di trassmissione

1. Sicherheitshebel	1. Safety Arm	1. Leva di sicurezza
2. Bremsband,komplett	2. Tension Band Assembly	2. Sistema frenante completo
3. Bandzughebel	3. Tension Arm	3. Leva tensionamento nastro
4. Vorratsteller-Sensor	4. Supply Reel Sensor	4. Sensore quantita' nastro
5. Bandführungsrolle, abwickelseitig	5. Supply Guide Roller	5. Rullo guida nastro, lato svolgimento
6. Bandführungsstift, abwickelseitig	6. Supply Guide Pole	6. Perno guida nastro, lato svolgimento
7. Vollspurlöschkopf	7. Full Erase Head	7. Testina di cancellazione traccia intera
8. Neigungsführungen	8. Angle Posts	8. Guide clinometriche (angolazione)
9. Impedanzrolle	9. Impedance Roller	9. Rullo di impedenza
10. Massebürste	10. Static Discharge Brush	10. Spazzola di massa
11. Bandführungsrolle, aufwickelseitig	11. Take-up Guide Roller	11. Rullo guida nastro,lato avvolgimento
12. Kopftrommelmotor, komplett	12. Cylinder Motor Assembly	12. Motore testina, completo
13. Kopftrommelmotor-Träger	13. Cylinder Base	13. Supporto motore testina
14. A/C-Kopf	14. Audio/Control Head	14. Testina di audio/comando
15. Bandführungsstift, aufwickelseitig	15. Take-up Pole	15. Perno guida nastro, lato avvolgimento
16. Capstan	16. Capstan Shaft	16. Mulinello (Capstan)
17. Andruckrolle, komplett	17. Pressure Roller Assembly	17. Rullo pressore, completo
18. Mechanischer Zustandsschalter	18. Mechanism State Switch	18. Interruttore di stato
19. Einfädelmotor, komplett	19. Loading Motor Assembly	19. Motore inserimento nastro, completo
20. Fädelmotorhalterung	20. Loading Motor Holder	20. Fissaggio motore inserimento nastro
21. Fädelmotorträger	21. Load Bracket	21. Supporto motore inserimento nastro
22. Cassettenverschlußöffner	22. Cassette Lid Opener	22. Apriportello cassetta
23. Aufwickelteller-Sensor	23. Take-up Reel Sensor	23. Sensore lato avvolgimento
24. Bremsverbindungshebel	24. Brake Link Arm	24. Leva collegamento freno
25. Andruckrollen-Betätigungshebel	25. Pressure Roller Operation Arm	25. Leva comando rulli di pressione
26. Bremseinheit, aufwickelseitig	26. Take-up Brake Assembly	26. Freno, lato avvolgimento
27. Aufwickelteller	27. Take-up Reel Table	27. Piatto avvolgimento nastro
28. Hauptbremse, aufwickelseitig	28. Take-up Main Brake	28. Freno principale, lato avvolgimento
29. Schubstangen-Baugruppe	29. Slider Block Assembly	29. Gruppo biellette
30. Bandende-LED	30. End Lamp	30. LED fine nastro
31. Wickelteller-Antriebszwischenrad	31. Reel Drive Idler	31. Ingranaggio intermedio, lato avvolgimento
32. Spannstift	32. Tension Pole	32. Perno di serraggio
33. Hauptbremse, abwickelseitig	33. Supply Main Brake	33. Freno principale, lato svolgimento
34. Vorratsteller	34. Supply Reel Table	34. Piatto di svolgimento
35. Kupplungsträgerbaugruppe	35. Clutch Base Assembly	35. Supporto giunto di trasmissione
36. Sensor-Leiterplatte	36. Sensor P.C.B	36. Scheda sensore
37. Capstan-Motor	37. Capstan Motor	37. Motore mulinello (Capstan)
38. Capstanmotor-Leiterplatte	38. Capstan Motor P.C.B	38. Scheda motore mulinello (Capstan)
39. Trommelmotorbaugruppe	39. Cylinder Motor Assembly	39. Complesso motore del cilindro
40. Einfädelzahnrad, abwickelseitig	40. Supply Loading Gear	40. Ingranaggio inserimento nastro, lato svolgimento
41. Einfädelzahnrad, aufwickelseitig	41. Take-up Loading Gear	41. Ingranaggio inserimento nastro, lato avvolgimento
42. Wickeltellerriemen	42. Reel Belt	42. Cinghia per disco nastro
43. Aufwickelzahnrad	43. Take-up Gear	43. Ingranaggio di avvolgimento
44. Kupplungshebel	44. Clutch Arm	44. Leva comando giunto di trasmissione
45. Schaltzahnrad	45. Change Gear	45. Ingranaggio di commutazione
46. Schalthebel	46. Change Arm	46. Leva di commutazione
47. Aufwickelriemenscheibe	47. Take-up Pulley	47. Puleggia di avvolgimento
48. FL-Schaltzahnrad	48. FL Change Gear	48. Ingranaggio di comando FL
49. FL-Schalthebel	49. FL Change Arm	49. Leva di comando FL
50. Relais-Zahnrad	50. Relay Gear	50. Ingranaggio del relais
51. Hebel für halbe Einfädelung	51. Half Loading Arm	51. Leva mezzo inserimento
52. Relais-Hebel	52. Relay Arm	52. Leva del relais

3. GEHÄUSEDEMONTAGE

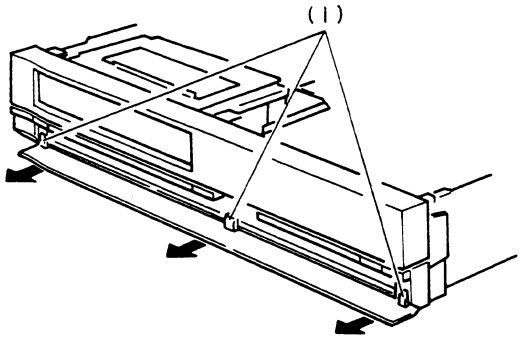
1. Klappe für Programmeinstellung
2. Obere Gehäuseschale
3. Gehäuseboden
4. Frontplatte
5. Rückwand
6. Fernbedienung

3. CASE REMOVAL

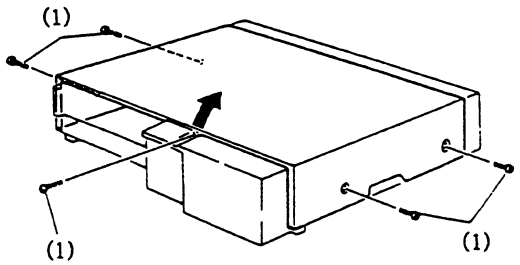
1. Channel Preset Door
2. Top Cover
3. Bottom Cover
4. Front Panel
5. Rear Panel
6. Remote Controller

3. SMONTAGGIO DELL'INVOLUCRO

1. Sportello dei selettori di programma
2. Pannello superiore
3. Pannello di base
4. Pannello frontale
5. Pannello posteriore
6. Telecomando infrarosso



Bild/Fig.3-1 Klappe für Programmeinstellung
Channel Preset Door
Sportello dei selettori di programma



Bild/Fig.3-2 Obere Gehäuseschale
Top Cover
Pannello superiore

1. Klappe für Programmeinstellung (Bild 3-1)
   1)Klappe öffnen,Befestigungshalterungen niederdrücken und die Klappe in Pfeilrichtung abziehen.

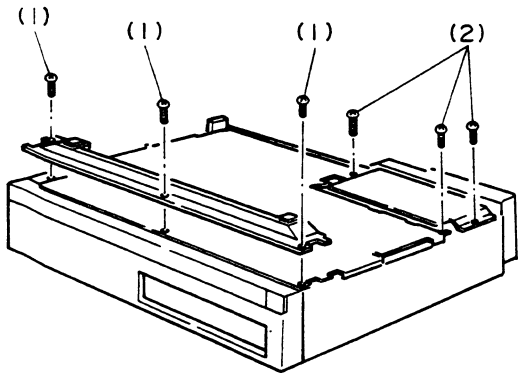
1. Channel Preset Door (Fig. 3-1)
   1)Open the preset door and, while pressing down the attachment sections, pull the door out in the direction of the arrows.

1. Sportello dei selettori di programma (Fig. 3-1)
   1)Aprire il coperchio,premere i supporti di fissaggio e eliminare il coperchio nel senso indicato dalla freccia.

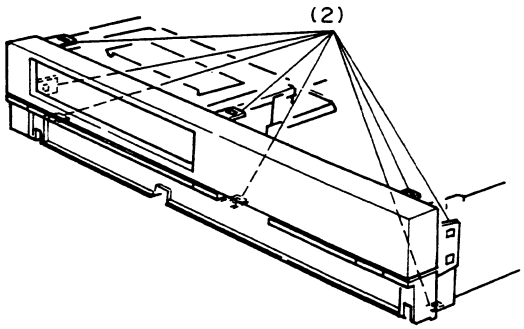
2. Obere Gehäuseschale (Bild 3-2)
   1)Die 5 Schrauben entfernen.
   2)Hintere Seite der oberen Gehäuseschale anheben und Gehäuseschale nach hinten abziehen.

2. Top Cover (Fig. 3-2)
   1)Remove the 5 screws.
   2)Lift up the rear of the top cover and slide the entire cover backwards.

2. Pannello superiore (Fig.3-2)
   1)Allentare le 5 viti di fissaggio.
   2)Sollevare il lato posteriore del pannello superiore e togliere questo pannello.



Bild/Fig.3-3 Bodenabdeckung
Bottom Cover
Pannello di base



Bild/Fig.3-4 Frontplatte
Front Panel
Pannello frontale

3. Bodenabdeckung (Bild 3-3)
   1)Die 3 Schrauben entfernen um die Fußleiste abzunehmen.
   2)Die 5 Schrauben entfernen und die Rückseite des Gehäusebodens anheben.

3. Bottom Cover (Fig.3-3)
   1)Remove 3 screws to take out the bottom supports.
   2)Remove 5 screws. Lift up the rear of the bottom cover.

3. Pannello di base (Fig. 3-3)
   1)Allentare le 3 viti e togliere il listello di base.
   2)Svitare le 5 viti e sollevare la parte posteriore del fondo.

4. Frontplatte (Bild 3-4)
   1)Programmeinstellklappe,obere Gehäuseschale und Bodenabdeckung entfernen.
   2)Die 8 Laschen lösen.
   3)Die Frontplattenunterseite herausziehen und die gesamte Frontplatte entfernen.

4. Front Panel (Fig. 3-4)
   1)Remove the preset door and the top and bottom covers.
   2)Release the 8 stoppers.
   3)Pull out the bottom of the front panel and remove the entire panel.

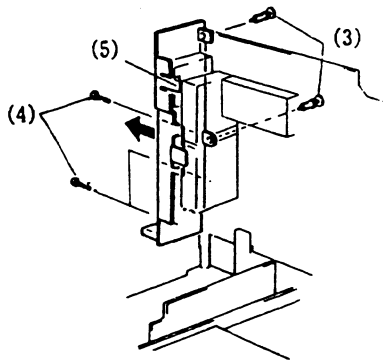
4. Pannello frontale (Fig. 3-4)
   1)Togliere il coperchietto della programmazione, il rivestimento superiore e il coperchio sul fondo.
   2)Staccare le 8 staffe.
   3)Estrarre la parte inferiore del pannello frontale e tutto il pannello frontale.

5. Rückwand (Bild 3-5)
   1)Die obere Gehäuseschale abnehmen.
   2)Die Leiterplatte YTJ aufklappen.
   3)Die 2 Kunststoffnieten entfernen.
   4)Eine Befestigungsschraube der VIDEO-I/O-Buchsen und zwei Schrauben der SCART-Buchse entfernen.
   5)Eine Lasche zur Befestigung des HF-Konverters entfernen. Die Rückwand nach hinten abziehen.

5. Rear Panel (Fig. 3-5)
   1)Remove the top cover.
   2)Open the YTJ circuit board.
   3)Remove the 2 nylon rivets.
   4)Remove one screw holding the VIDEO I/O jacks and remove two screws holding the PERI connector.
   5)Release one stopper holding the RF converter and pull out the rear panel backwards.

5. Pannello posteriore (Fig. 3-5)
   1)Eliminare il pannello superiore.
   2)Alzare girando la piastra YTJ.
   3)Rimuovere i 2 rivetti di plastica.
   4)Svitare una vite di fissaggio delle prese VIDEO-I/O e 2 viti della presa SCART.
   5)Togliere una staffa di fissaggio del convertitore AF. Estrarre il pannello posteriore verso il dietro.

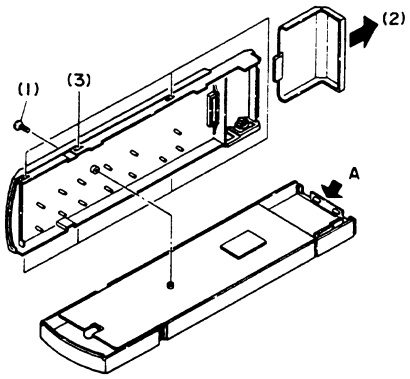
7. Fernbedienung (Bild 3-6)
1)Eine Schraube entfernen.
2)Die Batterieabdeckung entfernen.
3)Die 2 Laschen beim Niederdrücken von Sektion (A) lösen,die restlichen der Reihe nach (insgesamt 8 Laschen).



Bild/Fig.3-5 Rückwand
Rear Panel
Pannello posteriore

7. Remote Controller (Fig. 3-6)
1)Remove one screw.
2)Remove the battery lid.
3)Release 2 stoppers while pressing section (A) and then release the remaining stoppers in sequence. (There are 8 stoppers in all)

7. Telecomando infrarosso (Fig. 3-6)
1)Togliere 1 vite.
2)Estrarre il coperchio della batteria.
3)Sbloccare due linguette premendo sulla parte (A), poi le alter restanti una dopo l'altra (complessivamente 8).



Bild/Fig.3-6 Fernbedienung
Remote Controller
Telecomando infrarosso

4. LEITERPLATTENAUSBAU

1. Ltpl. Timer/Bedientasten
2. Timer-Hilfsleiterplatte
3. Ltpl. YTJ
4. Ltpl. SSA
5. Ltpl. Audio NR
6. Ltpl. Stabilisierung
7. Ltpl. Vor-/Aufnahmeverstärker

8. Ltpl. Sensoren
9. Ltpl. Digitalverarbeitung

1. Ltpl. Timer/Bedientasten (Bild 4-1)
1)Obere Gehäuseschale, Gehäuseboden, Frontplatte, Einstellklappe und Rückwand entfernen.
2)Die 7 Laschen lösen und den Block mitsamt Timer- und Timerhilfsleiterplatte entfernen.
3)Die 6 Flachbandkabel von der Timerhilfsleiterplatte abziehen.
4)Die 3 Laschen zur Befestigung des Leiterplattenhalters lösen.

2. Timer-Hilfsleiterplatte (Bild 4-2)
1)Obere Gehäuseschale, Gehäuseboden, Frontplatte, Einstellklappe und Rückwand entfernen.
2)Den Block mitsamt Timer- und Timerhilfsleiterplatte entfernen.
leiterplatte entfernen.
3)Die 6 Flachbandkabel und 4 Steckverbindungen von der Timerhilfsleiterplatte abziehen.
4)Die 2 Laschen zur Befestigung des Leiterplattenhalters lösen. Die Oberkante der Timerhilfsleiterplatte zum Herausnehmen neigen.

3. Ltpl. YTJ (Bild 4-3, 4-4)
1)Obere Gehäuseschale entfernen.
2)Das Abdeckgitter und die Erdleitungsschraube entfernen.
3)Die 3 Schrauben lösen.
4)Die 3 Laschen lösen und die Ltpl. YTJ in Pfeilrichtung aufklappen.
5)Die 9 Steckverbindungen und ein Flachbandkabel abziehen.
6)Die Steckverbindung zur SSA-leiterplatte abziehen.

4. Ltpl. SSA (Bild 4-5, 4-6)
1)Obere Gehäuseschale und Bodenabdeckung entfernen.
2)Die 2 Schrauben entfernen.
3)Die Steckverbindung vom Capstanmotor und das Flachbandkabel von der Sensorleiterplatte abziehen.
4)Die 4 Leiterplattenbefestigungslaschen lösen und die Leiterplatte in Pfeilrichtung aufklappen.
5)Die 14 Steckverbindungen lösen.
6)Steckverbindung und Flachbandkabel zur YTJ-Leiterplatte abziehen.

5. Ltpl. Audio NR (Bild 4-7)
1)Die Bodenabdeckung entfernen.
2)Die Ltpl. SSA aufklappen.
3)Die Audio-NR-Leiterplatte in Pfeilrichtung herausziehen.

4. CIRCUIT BOARD REMOVAL

1. Timer/Operation Switch P.C.B
2. Timer Sub P.C.B
3. YTJ P.C.B
4. SSA P.C.B
5. Audio NR P.C.B
6. Regulator P.C.B
7. Pre/Rec Amp P.C.B

8. Sensor P.C.B
9. Digital Process P.C.B

1. Timer/Operation P.C.B (Fig. 4-1)
1)Remove the top and bottom covers, front panel, preset door and the rear panel.
2)Release 7 tabs and remove the block containing the timer and timer sub circuit boards.
3)Disconnect 6 flat cables from the timer sub circuit board.
4)Release 3 stoppers holding the circuit board holder.

2. Timer Sub Circuit Board (Fig. 4-2)
1)Remove the top and bottom covers, front panel, preset door and the rear panel.
2)Remove the block containing the timer and timer sub circuit boards timer sub circuit boards.
3)Disconnect 6 flat cables and 4 connectors from the timer sub circuit board.
4)Release 2 stoppers holding the circuit board holder and tilt the top of the timer sub circuit board to remove it.

3. YTJ P.C.B (Fig. 4-3, 4-4)
1)Remove the top cover.
2)Remove the rear piece and 1 screw to release the ground wire.
3)Release the 3 screws.
4)Release 3 stoppers and open the YTJ P.C.B in the direction of the arrow.
5)Disconnect 9 connectors and one flat cable.
6)Disconnect the connector connected to the SSA circuit board.

4. SSA P.C.B (Fig. 4-5, 4-6)
1)Remove the top and bottom covers.
2)Remove 2 screws.
3)Disconnect the connector from the capstan motor and the flat cable from the sensor circuit board.
4)Release 4 stoppers holding the circuit board and open the circuit board in the direction of the arrow.
5)Disconnect 14 connectors.
6)Disconnect the connector and flat cable connected to the YTJ P.C.B.

5. Audio NR P.C.B (Fig. 4-7)
1)Remove the bottom cover.
2)Open the SSA circuit board.
3)Pull out the audio NR circuit board in the direction of the arrow.

4. SMONTAGGIO DEL CIRCUITO STAMPATO

1. Scheda Timer/Comando
2. Piastra ausiliaria del timer
3. Scheda YTJ
4. Scheda SSA
5. Scheda AUDIO NR
6. Scheda regolatori
7. Piastra preamplificatore e amplificatore di registrazione
8. Scheda sensori
9. Scheda elaborazione digitale

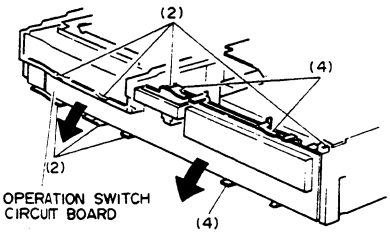
1. Scheda tastiera/timer (Fig. 4-1)
1)Eliminare l'involucro superiore, il fondo dell'involucro, la piastra frontale e il pannello posteriore.
2)Staccare le 7 staffe e il blocco, comprese le piastre timer e ausiliaria timer.
3)Estrarre i 6 cavi piatti dalla piastra ausiliaria timer.
4)Staccare le 3 staffe di fissaggio del supporto piastre.

2. Piastra ausiliaria timer (Fig. 4-2)
1)Eliminare l'involucro superiore, il fondo dell'involucro, la piastra frontale e il pannello posteriore.
2)Togliere il blocco con timer e piastra ausiliaria timer.
3)Staccare 6 cavi piatti e 4 connettori dalla piastra ausiliaria timer.
4)Staccare 2 staffe di fissaggio del supporto delle piastre. Inclinare il bordo superiore della piastra ausiliaria timer, per toglierla.

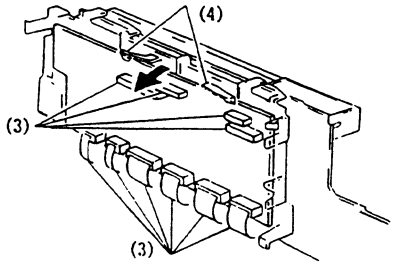
3. Scheda YTJ (Fig. 4-3, 4-4)
1)Eliminare l'involucro superiore.
2)Togliere la griglia di copertura e la vite del cavo di terra.
3)Eliminare una vite.
4)Staccare le 3 staffe e girare verso l'alto la piastra YTJ in direzione della freccia.
5)Estrarre i 9 connettori e un cavo piatto.
6)Estrarre i connettori verso la piastra SSA.

4. Scheda SSA (Fig. 4-4, 4-5)
1)Eliminare l'involucro superiore e il fondo dell'involucro.
2)Eliminare 2 viti.
3)Estrarre il connettore dal mulinello e il cavo piatto dalla piastra sensori.
4)Staccare le 4 staffe di fissaggio della piastra e girare verso l'alto la piastra in direzione della freccia.
5)Staccare i 14 collegamenti.
6)Estrarre il connettore e il cavo piatto verso la piastra YTJ.

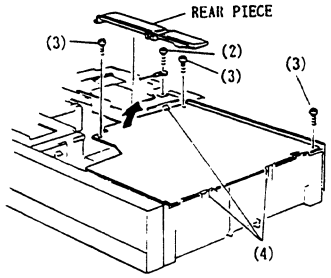
5. Scheda Audio NR (Fig. 4-7)
1)Smontare il coperchio sul fondo.
2)Girare verso l'alto la piastra SSA.
3)Estrarre la piastra AUDIO NR in direzione della freccia.



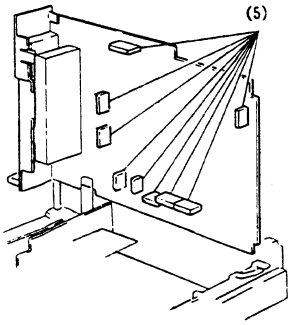
Bild/Fig.4-1 Ltpl. Timer/Bedientasten
Timer/Operation SW P.C.B
Scheda tastiera/timer



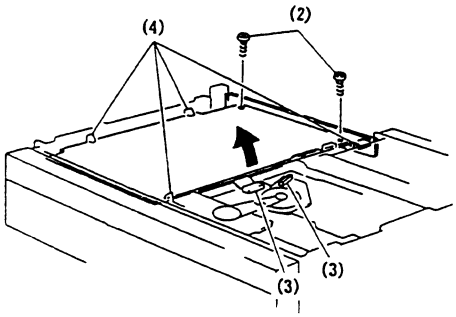
Bild/Fig.4-2 Timer-Hilfsleiterplatte
Timer Sub P.C.B
Piastra ausiliaria timer



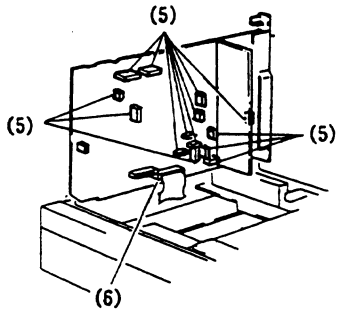
Bild/Fig.4-3 Ltpl. YTJ
YTJ P.C.B
Scheda YTJ
(a)Abdeckgitter / Griglia di copertura



Bild/Fig.4-4 Ltpl. YTJ
YTJ P.C.B
Scheda YTJ



Bild/Fig.4-5 Ltpl. SSA
SSA P.C.B
Scheda SSA

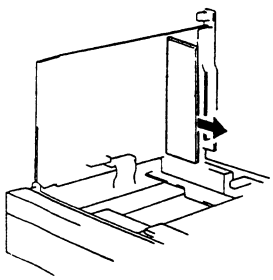


Bild/Fig.4-6 Ltpl. SSA
SSA P.C.B
Scheda SSA

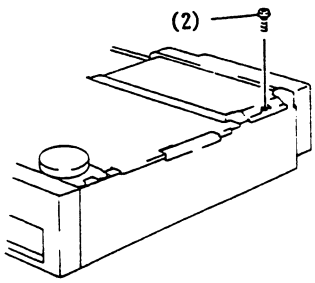
6. Ltpl. Netzteil (Bilder 4-8 - 4-10)
1)Obere Gehäuseschale entfernen.
2)Die Befestigungsschraube für den Gehäuseboden entfernen.
3)Die 2 Laschen zum Entfernen der Gitterabdeckung lösen.
4)Die 4 Steckverbindungen von der Netzteilleiterplatte abziehen.
5)Die 3 Schrauben entfernen und zum Herausnehmen den Netzteilblock anheben.
6)Die 2 Befestigungsschrauben des Stabilisierungs-IC's neben dem Kühlkörper entfernen.
7)Die 4 Befestigungsschrauben des Netztrafos entfernen.
8)Die Befestigungsschraube der Netzteilleiterplatte entfernen. Leiterplatte und Netztrafo aus der Netzteilhalterung herausnehmen.
9)Die 3 Distanzstücke lösen und die Stabilisierungsleiterplatte für Service-Zwecke in Pfeilrichtung herausklappen.

6. Regulator P.C.B (Figs. 4-8 - 4-10)
1)Remove the top cover.
2)Remove one screw holding the bottom cover.
3)Release 2 stoppers to remove the rear piece.
4)Disconnect 4 connectors from the regulator P.C.B .
5)Remove 3 screws and lift up the regulator circuit block to pull it out.
6)Remove 2 regulator IC retaining screws near the heat sink.
7)Remove the 4 screws holding the power transformer.
8)Remove one screw holding the regulator circuit board and remove the circuit board and power transformer from the regulator holder.
9)Release 3 P.C.B supports and open the regulator circuit board in the direction of the arrow for servicing.

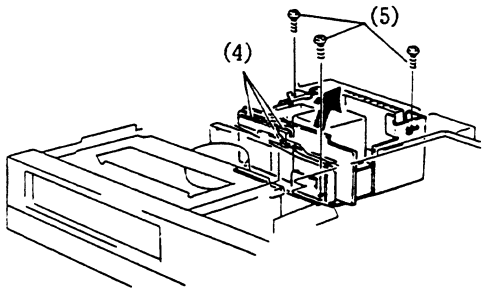
6. Scheda regolatori (Fig. 4-8 - 4-10)
1)Eliminare l'involucro superiore.
2)Svitare la vite di fissaggio del fondo.
3)Staccare le 2 staffe per poter togliere la griglia di copertura.
4)Staccare i 4 connettori dalla piastra dell'alimentatore.
5)Svitare le 3 viti e sollevare l'alimentatore per toglierlo.
6)Togliere le 2 viti di fissaggio del'IC di stabilizzazione, a fianco del corpo di raffreddamento.
7)Togliere la 4 viti di fissaggio del trasformatore di rete.
8)Togliere la vite di fissaggio della piastra dell'alimentatore.Estrarre la piastra e il trasformatore dal supporto dell'alimentatore.
9)Girare verso l'esterno, in direzione della freccia, i 3 distanziatori e la piastra di stabilizzazione per fini di manutenzione.



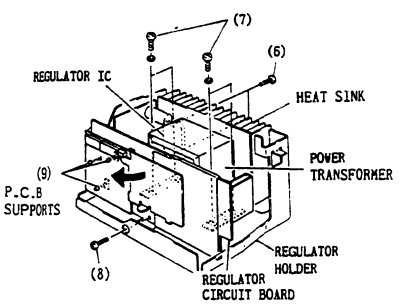
Bild/Fig.4-7 Ltpl. Audio NR
Audio NR P.C.B
Scheda Audio NR



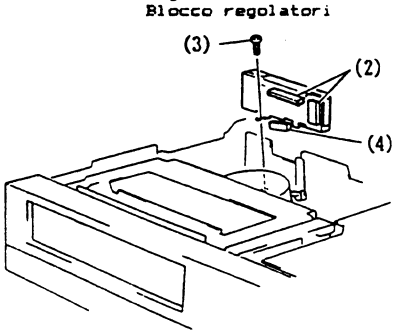
Bild/Fig.4-8 Netzteilblock
Regulator Circuit Block
Blocco regolatori



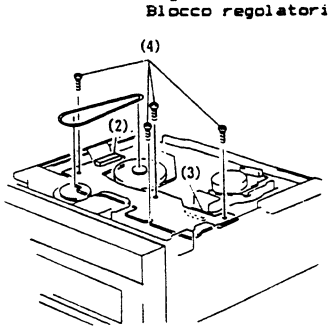
Bild/Fig.4-9 Netzteilblock
Regulator Circuit Block
Blocco regolatori



Bild/Fig.4-10 Netzteilblock
Regulator Circuit Block
Blocco regolatori



Bild/Fig.4-11 Ltpl. Vor-/Aufnahmeverst.
Pre/Rec Amp P.C.B
Piastra preamplificatore e amplificatore di registrazione



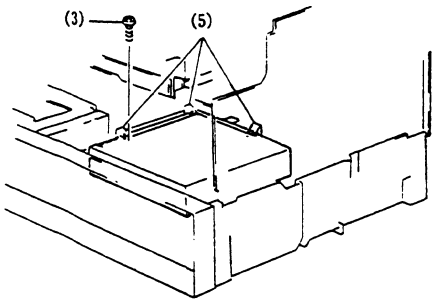
Bild/Fig.4-12 Ltpl. Sensor
Sensor P.C.B
Scheda sensori

7. Ltpl. Vor-/Aufnahmeverstärker (Bild 4-11)
1)Obere Gehäuseschale entfernen.
2)Die 2 Steckverbindungen lösen.
3)Eine Schraube entfernen.
4)Die Steckverbindung zum Trommelmotor abziehen während die Ltpl. Vor-/Aufnahmeverstärker angehoben wird.

8. Ltpl.Sensor (Bild 4-12)
1)Den Gehäuseboden entfernen.
2)Flachbandkabel und Steckverbindung von der Sensor-Ltpl. abziehen.
3)Den Stecker vom Trommelmotor abziehen.
4)Die 4 Schrauben entfernen und die Ltpl. Sensor herausheben.

9. Ltpl. Digitalverarbeitung(Bild 4-13)

1)Die obere Gehäuseschale entfernen.
2)Ltpl. YTJ aufklappen.
3)Eine Schraube entfernen.
4)Die 4 Stecker abziehen.
5)Die 3 Laschen lösen.



Bild/Fig.13 Ltpl. Digitalverarbeitung
Digital Process P.C.B
Scheda elaborazione digitale

7. Pre/Rec Amp P.C.B (Fig. 4-11)

1)Remove the top cover.
2)Disconnect 2 connectors.
3)Remove one screw.
4)Disconnect the connector connected to the cylinder motor while lifting up the pre/rec amp circuit board.

8. Sensor P.C.B (Fig. 4-12)
1)Remove the bottom cover.
2)Disconnect the flat cable and connector from the sensor P.C.B .
3)Disconnect the connector from the cylinder motor P.C.B .
4)Remove 4 screws and lift up the Sensor P.C.B .

9. Digital Process P.C.B (Fig. 4-13)

1)Remove the top cover.
2)Open the YTJ P.C.B .
3)Remove one screw.
4)Disconnect 4 connectors.
5)Release 3 stoppers.

7. Scheda preamplificatore e amplificatore di registrazione (Fig. 4-11)
1)Eliminare il pannello superiore.
2)Staccare i 2 connettori.
3)Svitare una vite.
4)Estrarre il connettore del motore del tamburo sollevando la piastra dell'amplificatore/amplificatore di registrazione.

8. Piastra sensore (Fig. 4-12)
1)Togliere il fondo dell'involucro.
2)Staccare il cavo piatto e il connettore dalla piastra sensore.
3)Staccare il connettore dal motore del tamburo.
4)Eliminare le 4 viti ed estrarre la scheda sensore.

9. Scheda elaborazione digitale (Fig. 4-13)
1)Eliminare l'involucro superiore.
2)Girare verso l'alto la piastra YTJ.
3)Eliminare una vite.
4)Estrarre i 4 connettori.
5)Liberare le 3 linguette.

5. AUSBAU DER CASSETTENLADEMECHANIK

1. Cassettenlademechanik
* Die nachfolgenden Komponenten werden beschrieben, als ob obere Gehäuseschale,Gehäuseboden und die Frontplatte schon entfernt worden wären.

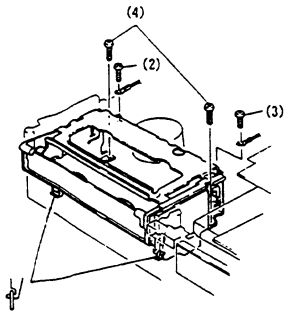
2. Cassettenschachtklappe

3. Cassettenladegetriebe, komplett
4. Chassishalterung
5. Cassettenhalterung, komplett
6. Fronthalter, komplett
7. Cassettenhalterungsbasis
8. Cassettenhalter (L/R)

1. Cassettenlademechanik (Bild 5-1)
1)Obere Gehäuseschale und Frontplatte abnehmen.
2)Die Befestigungsschraube für die Erdungsleitung auf der Sensorleiterplatte entfernen.
3)Die Befestigungsschraube für die Erdungsleitung auf der Netzteilplatte entfernen.
4)Die 2 Schrauben entfernen.
5)Die Rückseite der Mechanik anheben und dabei die Einhängepunkte an der vorderen Unterseite freigeben.

2. Cassettenschachtklappe (Bild 5-2)

1)Die linke Seite der Fronthalterung in Pfeilrichtung nach außen drücken und die Cassettenschachtklappe herausnehmen.



Bild/Fig.5-1 Cassettenlademechanismus
Cassette Loading Mechanism
Meccanismo di carica cassetta

5. CASSETTE LOADING MECHANISM REMOVAL

1. Cassette Loading Mechanism
* Components listed below will be described as if the top and bottom covers and the front panel have already been removed.

2. Cassette Door

3. Loading Gear Assembly
4. Chassis Holder
5. Cassette Holder Assembly
6. Front Holder Assembly
7. Cassette Holder Base
8. Cassette Holders (L/R)

1. Cassette Loading Mechanism (Fig.5-1)
1)Remove the top cover and front panel.
2)Remove one screw to release the ground wire on the sensor circuit board.
3)Remove one screw to release the ground wire on the regulator circuit board.
4)Remove the 2 screws.
5)Lift up the rear of the mechanism and release the fittings on the front bottom.

2. Cassette Door (Fig. 5-2)

1)Push the left of the front holder outward in the direction of the arrow and remove the cassette door.

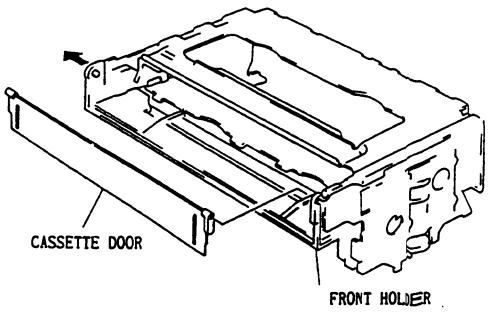
5. SMONTAGGIO DEL MECCANISMO DI CARICA CASSETTA
1. Meccanismo di carica cassetta
* La descrizione e' fatta presumendo che il coperchio, il pianale ed il pannello frontale della scatola siano gia' tolti.

2. Sportello d'introduzione della cassetta
3. Meccanismo caricamento cassetta
4. Supporto chassis
5. Supporto ritegno videocassetta
6. Supporto parte frontale, completo
7. Base di supporto videocassetta
8. Supporto videocassetta (sx/dx)

1. Meccanismo di carica cassetta(Fig.5-2)
1)Eliminare la parte superiore e il pannello frontale.
2)Togliere la vite di fissaggio del cavo di terra sulla piastra sensore.

3)Togliere la vite di fissaggio del cavo di terra sulla piastra dell'alimentatore.
4)Eliminare le 2 viti.
5)Sollevare la parte posteriore del gruppo meccanico e liberare i punti di ritegno sulla parte anteriore in basso.

2. Sportello d'introduzione della cassetta (Fig. 5-2)
1)Agire sul lato sinistro del supporto per il frontalino spingendo verso l'esterno,secondo la freccia, ed estrarre il portello dello scomparto cassetta.



Bild/Fig.5-2 Cassettenschachtklappe
Cassette Door
Sportello d'introduzione della cassetta

3. Cassettenladegetriebe, komplett (Bild 5-3)
1)Die 2 Laschen lösen,die mit der Chassishalterung verbunden sind und eine Lasche lösen, die mit der Fronthalterung verbunden ist. Dann das komplette Cassettenladegetriebe abnehmen.

4. Chassishalterung (Bild 5-4)
1)Die 2 laschen lösen, die mit der Fronthalterung verbunden sind.

5. Cassettenhalter, komplett (Bild 5-5)
1)Zum Ausbau den Cassettenhalter in Pfeilrichtung nach außen drücken.

3. Loading Gear Assembly (Fig. 5-3)
1)Release 2 tabs that fit with the chassis holder and one tab that fits with the front holder, then separate the loading gear assembly.

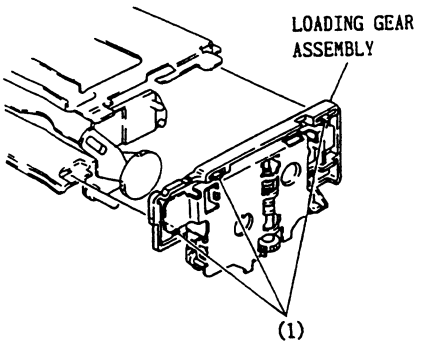
4. Chassis Holder (Fig. 5-4)
1)Release 2 tabs that fit with the front holder.

5. Cassette Holder Assembly (Fig. 5-5)
1)Push the cassette holder assembly outward in the directions of the arrows to remove it.

3. Servomeccanismo caricamento cassetta (Fig. 5-3)
1)Liberare le due linguetta di ritegno con il supporto del telaio e la linguetta collegata con la parte frontale. Estrarre il gruppo meccanicodi caricamento videocassetta.

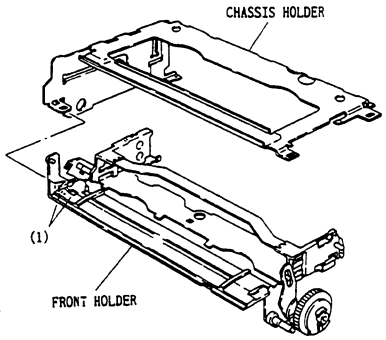
4. Supporto chassis (Fig. 5-4)
1)Liberare le due linguette collegate con la parte frontale.

5. Supporto cassetta completo (Fig. 5-5)
1)Per lo smontaggio, premere verso l'esterno il supporto cassetta, nel senso della freccia.



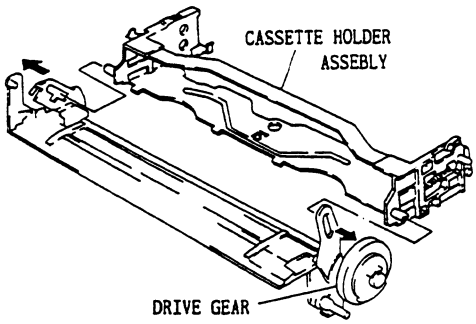
Bild/Fig.5-3 Cassettenladegetriebe, komplett
Loading Gear Assembly
Servomeccanismi caricamento cassetta

(a)Cassettenladegetriebe, komplett
Gruppo meccanico caricamento videocassetta



Bild/Fig.5-4 Chassishalterung
Chassis Holder
Supporto chassis

(a)Chassishalterung
Supporto chassis
(b)Fronthalterung
Parte frontale



Bild/Fig.5-5 Cassettenhalterung,kompl.
Cassette Holder Assembly
Supporto ritegno cassetta, completo

(a)Cassettenhalterung
Supporto ritegno cassetta
(b)Antriebszahnrad
Ruota dentata motrice

6. Fronthalterung (Bild 5-6)
1)Die Achse und den Antriebsarm (L) entfernen.

7. Cassettenhalterbasis (Bild 5-7)
1)Die 4 Laschen auf beiden Seiten der Cassettenhaltereinheit lösen.

8. Cassettenhalter (L/R) (Bild 5-8)
1)Die Laschen der Cassettenhalter L und R lösen.

6. Front Holder (Fig. 5-6)
1)Remove the shaft pin and drive arm (L).

7. Cassette Holder Base (Fig. 5-7)
1)Release 4 tabs on both sides of the cassette holder assembly.

8. Cassette Holder (L/R) (Fig. 5-8)
1)Release the tabs of cassette holders L and R.

6. Supporto pannello frontale (Fig. 5-6)
1)Rimuovere l'asse ed il braccetto di trasporto (sx).

7. Base supporto cassetta (Fig. 5-7)
1)Sbloccarre le 4 linguette sui due lati del supporto cassetta.

8. Supporto cassetta (sx/dx) (Fig. 5-8)
1)Sbloccare le linguette del supporto videocassetta.

Bild/Fig.5-6 Fronthalterung
Front Holder
Supporto frontalino

(a)Antriebsarm L
Braccetto di trasporto sx
(b)Achse / Asse
(c)Fronthalterung
Supporto frontalino

Zur Beachtung beim Wiedereinbau.
Der Wiedereinbau erfolgt in umgekehrter Richtung zum Ausbau. Folgende Hinweispunkte sind zu beachten:

Kontrollieren,ob die 2 Bolzen des Cassettenhalters in die 2 Schlitze links im Chassishalter eingesetzt sind (siehe Bild 5-9).

Beim Einbau des kompletten Cassettenladegetriebes darauf achten,daß die 2 Bolzen des Cassettenhalters in die Schlitze rechts im Chassishalter eingesetzt sind (siehe Bild 5-10).

Kontrollieren, ob die Marke ◇ auf dem Synchronzahnrad mit der Marke △ auf dem Kupplungszahnrad ausgerichtet ist (siehe Bild 5-10).

Bild/Fig.5-7 Cassettenhalterbasis
Cassette Holder Base
Base supporto cassetta

(a)Die 4 Laschen lösen
Sbloccare le 4 linguette
(b)Lasche / Linguetta
(c)Cassettenhalterbasis
Base supporto cassetta

Cautions on reinstalling.
Reinstall the components by the reverse procedure to removal, taking care of the following items.

Check that 2 bosses of the cassette holder are inserted into the grooves in the left of the chassis holder. (See Fig. 5-9)

When reinstalling the loading gear assembly, check that 2 bosses of the cassette holder are inserted into the grooves in the right of the chassis holder. (See Fig. 5-10)

Check that marking ◇ on the synchro gear and marking △ on the clutch gear are aligned. (See Fig. 5-10)

Bild/fig.5-8 Cassettenhalter L/R
Cassette Holder L/R
Supporto videocassetta (s/d)

(a)Cassettenhalterstrebe
Astine del supporto
(b)Cassettenhalter L
Supporto videocassetta s
(c)Cassettenhalter R
Supporto videocassetta d

Note per il montaggio.
Il montaggio si effettua in ordine inverso. Durante questa fase e' importante osservare quanto segue:

Controllare che i due perni del supporto videocassetta siano correttamente inseriti nelle due guide a sinistra, nel supporto del chassis (vedi Fig.5-9).

Durante il montaggio del gruppo meccanico di caricamento videocassetta, verificare che i due perni del supporto cassetta siano correttamente inseriti nelle guide a destra nel supporto del chassis (vedi Fig.5-10).
Controllare se il segno ◇ sull'ingranaggio di sincronizzazione corrisponde a quello △ sull'ingranaggio del giunto di trasmissione (vedi Fig.5-10).

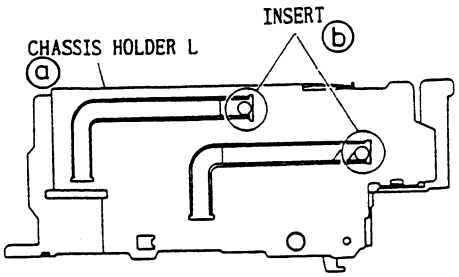
Kontrollieren,ob der Bolzen des Schalthebels A auf der Nocke des Synchronzahnrades aufliegt (siehe Bild 5-10).

Beim Wiedereinbau der Cassettenschachtklappe darauf achten,daß der Bolzen des Klappenhebels in das Loch der Cassettenschachtklappe eingesetzt ist (siehe Bild 5-10).

Check that the boss of the cassette switch lever A is set to the cam of the synchro gear. (See Fig. 5-10)

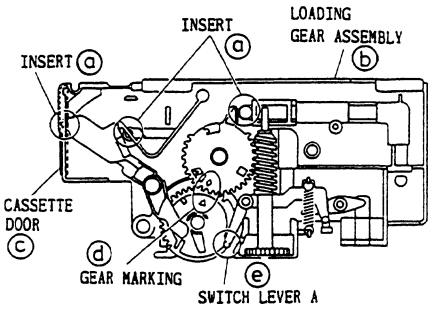
When reinstalling the cassette door, check that the boss of the door arm is inserted into the groove in the cassette door. (See Fig. 5-10)

Controllare se il perno della levetta dell'interruttore A o' posto in corrispondenza della camma dell'ingranaggio di sincronismo (vedi Fig.5-10).
Durante il montaggio di portellino della videocassetta, fare attenzione che il perno della levetta sia correttamente inserito nel foro del portellino (vedi Fig.5-10).



Bild/Fig.5-9

(a)Chassishalter
Supporto chassis
(b)Einhängepunkt
Punto di sospensione



Bild/Fig.5-10

(a)Einhängepunkt / Punto di sospensione
(b)Ladegetriebe,komplett
Servomeccanismo di caricamento
(c)Cassettenschachtklappe
Sportello d'introduzione della cassetta
(d)Zahnradmarkierung / Marcatura
(e)Schalthebel A
Levetta dell'interruttore A

6. AUSBAU DES LADEGETRIEBES

1. Seitenchassis
2. FL-Schneckenantrieb, Klappenhebel, Schneckenrad, Schalthebel A/B

1. Seitenchassis (Bild 6-1)
1)Die 4 Laschen lösen, die das Ladegetriebe mit dem Seitenchassis verbinden.

2. FL-Schneckenantrieb, Klappenhebel, Schneckenrad, Schalthebel A/B (Bild 6-2)

1)Den FL-Schneckenantrieb herausnehmen.
2)Den Klappenhebel herausnehmen.
3)Das Schneckenrad herausnehmen.
4)Die Feder zwischen Schalthebel A und dem Getriebeträger entfernen.
5)Schalthebel A und B herausnehmen.

6. LOADING GEAR REMOVAL

1. Side Chassis
2. FL Worm Gear, Door Arm, Worm Wheel, Switch Levers A/B

1. Side Chassis (Fig. 6-1)
1)Release 4 tabs linking the loading gear to the side chassis.

2. FL Worm Gear, Door Arm, Worm Wheel, Switch Levers A/B (Fig. 6-2)

1)Pull out the FL worm gear.

2)Pull out the door arm.
3)Pull out the worm wheel.
4)Remove the spring between switch lever A and the gear bracket.
5)Pull out switch levers A and B.

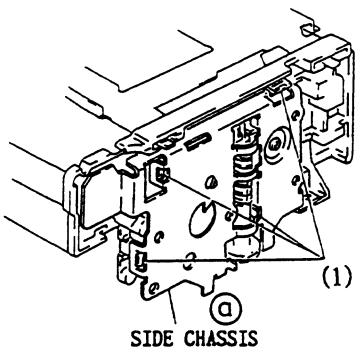
6. SMONTAGGIO GRUPPO MECCANICO CARICAMENTO CASSETTA

1.Telaio laterale
2.Ingranaggio elicoidale di trasmissione FL, levetta portello, ingranaggio elicoidale, levetta di commutazione A/B

1. Telaio laterale (Fig.6-1)
1)Sbloccare le 4 linguette che fissano il gruppo meccanico alla parte laterale del telaio.

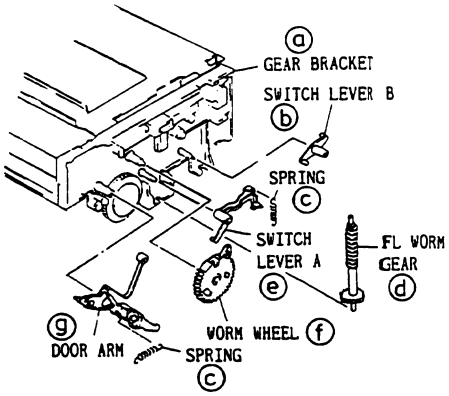
2. Ingranaggio elicoidale di trasmissione FL, leva portello, ingranaggio elicoidale, leva di commutazione A/B (Fig.6-2).

1)Estrarre l'ingranaggio elicoidale di trasmissione FL.
2)Eliminare il braccio del coperchio.
3)Estrarre i'ingranaggio elicoidale.
4)Rimuovere la molla fra leva di commutazione A e supporto elementi meccanici.
5)Estrarre le leve di commutazione A e B.



Bild/Fig.6-1 Seitenchassis
Side Chassis
Telaio laterale

(b)Seitenchassis / Telaio laterale



Bild/fig.6-2 FL-Schneckenantrieb, Klappenarm,Schneckenrad,Schalthebel A/B
FL Worm Gear, Door Arm, Worm Wheel, Switch Levers A/B
Ingranaggio elicoidale di trasmissione FL, braccio dello sportello, trasmissione FL, levetta portello, ingranaggio elicoidale, leva di commutazione A/B

(a)Betriebeträger
Supporto elementi meccanici
(b)Schalthebel B
Leva di commutazione B
(c)Feder / Molla
(d)FL-Schneckenantrieb
Ingranaggio elicoidale di trasmissione FL
(e)Schalthebel A
Leva di commutazione A
(f)Schneckenrad / Ingranaggio elicoidale
(g)Klappenhebel /Braccio dello sportello

7. AUSBAU DER MECHANISCHEN HAUPT-KOMPONENTEN

1. Impedanzrolle/FE-Kopf
2. A/C-Kopf
3. Kopftrommelmotor, komplett
4. Capstan-Motor
5. Fädelmotor mit Mechanischem Zustandsschalter
6. Schubstangenblock
7. Bandzughebel/Bremsband
8. Wickeltellerantriebszahnrad
9. Vorratsteller
10. Aufwickelteller
11. Andruckrolle
12. Bandführungsstift, abwickelseitig
13. Bandführungsstift, aufwickelseitig
14. Bandführungsrollen
15. Einfädelmotorblock
16. Bremsverbindungshebel, Bremsschalthebel
17. Relais-Hebel
18. Hebel für halbe Einfädelung
19. Fädelmotorträger
20. Bremsenbetätigungshebel
21. Steuerkurvenrad
22. Schneckenrad
23. Aufwickelbremse
24. Andruckrollenbetätigungshebel
25. Bremsenhubhebel
26. FS-Bremshebel
27. Trommelmotorträger
28. Einfädelhebel, abwickel-/aufwickelseitig
29. Aufwickelriemenscheibe
30. Kupplungsgetriebe
31. Aufwickelzahnrad
32. Schalthebel, Schaltzahnrad
33. Relais-Zahnrad
34. FL-Schaltzahnrad, FL-Schalthebel

1. Impedanzrolle/FE-Kopf (Bild 7-1)
 1) Obere Gehäuseschale abnehmen.
 2) Die Feder zwischen FE-Kopfträger und Chassis herausnehmen.
 3) Den Stecker abziehen.
 4) Mutter entfernen, die den Führungsstift hält; Führungsstift abnehmen.
 5) Eine Lasche lösen; Impedanzrolle mit FE-Kopf herausnehmen.
 6) Zum Entfernen des FE-Kopfs 2 Laschen lösen und den FE-Kopf herausziehen.

2. A/C-Kopf (Bild 7-2)
 1) Obere Gehäuseschale entfernen.
 2) Den Stecker abziehen.
 3) Die Mutter des Kopfträgers entfernen. Den Kopfträger nach oben abziehen.

* Das Federende unter dem Kopfträger auf dem Chassis einhaken, den Federanfang an der Nase des Kopfträgers.

Zur Beachtung beim Wiedereinbau:
* Kontrollieren, ob das Federteil auf der A/C-Kopfbefestigungsschraube ca. 6,3mm über die Oberkante des Kopfträgers 1 hinausragt.
* Kontrollieren, ob Kopfträger 1 und Kopfträger 2 parallel sind.

Einstellungen nach dem Wiedereinbau:
*Einstellung des A/C-Kopfs
*Einstellung des X-Wertes
*Einstellung des Audio-Wiedergabepegels
*Einstellung des Audio-Vormagnetisierungspegels

7. MAIN MECHANICAL COMPONENTS REMOVAL

1. Impedance Roller/FE Head
2. A/C Head
3. Cylinder Motor Assembly
4. Capstan Flywheel Motor
5. Loading Motor/Mechanism State Switch Assembly
6. Slider Block
7. Tension Arm/Tension Band
8. Reel Drive Gear
9. Supply Reel Disk
10. Take-up Reel Disk
11. Pressure Roller
12. Supply Guide Pole
13. Take-up Guide Pole
14. Guide Rollers
15. Loading Motor Block
16. Brake Link Arm, Brake Change Arm
17. Relay Arm
18. Half Loading Arm
19. Load Bracket
20. Brake Operation Arm
21. Mode Gear
22. Worm Wheel
23. Take-up Brake
24. Pressure Roller Operation Arm
25. Brake Lift Arm
26. FS Brake Arm
27. Cylinder Motor Base
28. Supply/Take-up Loading Arms
29. Take-up Pulley
30. Clutch Gear
31. Take-up Gear
32. Change Arm, Change Gear
33. Relay Gear
34. FL Change Gear, FL Change Arm

1. Impedance Roller/FE Head (Fig. 7-1)
 1) Remove the top cover.
 2) Remove the spring between the FE head base and chassis.
 3) Disconnect the connector.
 4) Remove the nut holding the guide pole and pull out the pole.
 5) Release one tab and remove the impedance roller/FE head.
 6) To remove the FE head, release two tabs and pull out the FE head.

2. A/C Head (Fig. 7-2)
 1) Remove the top cover.
 2) Disconnect the connector.
 3) Remove the nut holding the head bas and pull the base up and out.

* Hook the bottom of the spring under the head base to the chassis and the top to the stopper of the head base.

Cautions when reinstalling.
* Check that the spring section of the A/C head retaining screw protrudes 6.3mm above the top of the head base 1 .
* Check that head bases 1 and 2 are parallel.

Adjustments after reinstallation.
*A/C Head Adjustment
*X Value Adjustment
*Audio Playback Level Adjustment
*Audio Bias Level Adjustment

7. SMONTAGGIO DEI PRINCIPALI COMPONENTI MECCANICI

1. Rullo d'impedenza/Testina FE
2. Testina A/C
3. Unita' motore del cilindro
4. Motore capstan (mulinello)
5. Motore di infilatura con selettore di modo
6. Biellette
7. Leva tensionamento/freno nastro
8. Ruota dentata motrice del disco
9. Disco di svolgimento nastro
10. Disco di avvolgimento nastro
11. Rullo pressore
12. Perno guida nastro, svolgimento
13. Perno guida nastro, avvolgimento
14. Rulli per la guida del nastro
15. Motore inserimento nastro
16. Leva collegamento freno, leva inserimento freno
17. Leva del relais
18. Leva mezzo inserimento nastro
19. Supporto motore inserimento nastro
20. Leva azionamento freno
21. Disco a curve
22. Ingranaggio elicoidale
23. Freno avvolgimento
24. Leva comando rullo di pressione
25. Leva corsa freno
26. Leva freno FS
27. Supporto motore del cilindro
28. Leva inserimento nastro, avvolgimento e svolgimento
29. Puleggia lato avvolgimento
30. Ingranaggi del giunto di trasmissione
31. Ingranaggio avvolgimento
32. Leva ed ingranaggio di commutazione
33. Ingranaggio del relais
34. Ingranaggio FL, leva di commutazione FL

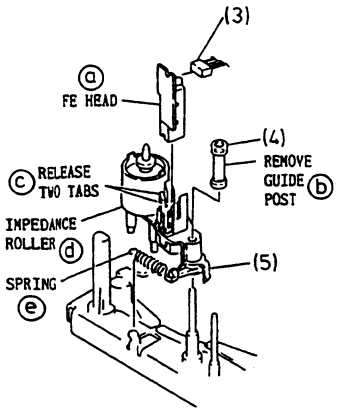
1. Rullo d'impedenza/Testa FE (Fig.7-1)
 1) Eliminare la parte superiore.
 2) Smontare la molla fra supporto testina FE e chassis.
 3) Scioglierе il collegamento a spina.
 4) Estrarre il perno guida nastro, dopo aver svitato il dado.
 5) Sbloccare le linguette ed estrarre il rullo d'impedenza con la testa FE.
 6) Per estrarre la testina FE, sbloccare le 2 linguetta.

2. Testina A/C (Fig.7-2)
 1) Eliminare la parte superiore.
 2) Scioglierе il collegamento a spina.
 3) Svitare il dado ed estrarre verso l'alto il supporto testina.

* Agganciare un'estremita' della molla al telaio e l'altra all'attacco sul supporto testina.

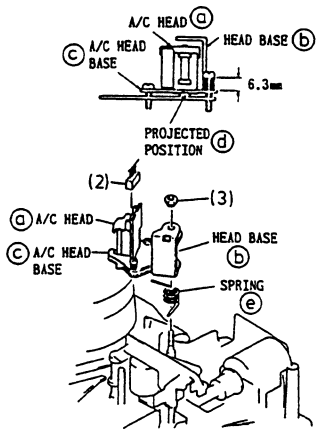
Attenzione nel rimontaggio:
* Verificare che la molla sulla vite di fissaggio della testina A/C si trovi a circa 6,3mm di distanza dalla parte superiore del supporto testina 1 .
* Verificare che i supporti 1 e 2 della testina siano paralleli.

Bilanciamento dopo il rimontaggio:
*Testina A/C
*Regolazione del valore X
*Livello segnale audio in riproduzione
*Regolazione del livello della premagnetizzazione audio



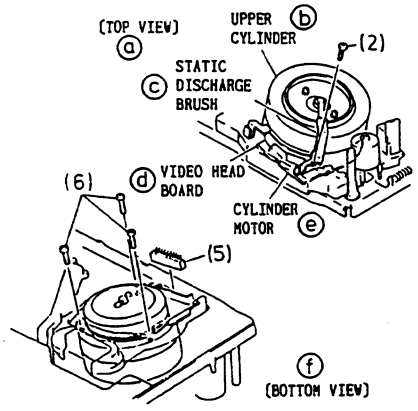
Bild/Fig.7-1 Impedanzrolle/FE-Kopf
Impedance Roller/FE Head
Rullo d'impedenza / Testina FE

(a) FE-Kopf / Testina FE
(b) Bandführungsstift entfernen
Estrarre il perno guida nastro
(c) Die 2 Laschen lösen
Sbloccare le 2 linguette
(d) Impedanzrolle / Rullo d'impedenza
(e) Feder / Molla



Bild/Fig.7-2 A/C-Kopf
A/C Head / Testina A/C

(a) A/C-Kopf / Testina A/C
(b) Kopfträger / Supporto testina
(c) A/C-Kopfträger / Supp. testina A/C
(d) Vorsprung / Sporgenza
(e) Feder / Molla



Bild/Fig.7-3 Kopftrommelmotor, komplett
Cylinder Motor Assembly
Unita' motore del cilindro

(a) Sicht von oben / Vista dall'alto
(b) Videokopf / Testina video
(c) Massebürste / Spazzola di massa
(d) Ltpl. Videoköpfe / Scheda testina video
(e) Trommelmotor / Motore del cilindro
(f) Sicht von unten / Vista dal basso

3. Kopftrommelmotor,komplett (Bild 7-3)
1)Obere Gehäuseschale entfernen.
2)Eine Schraube und die Massebürste entfernen.
3)Die Ltpl. Vorverstärker herausziehen.
Unterseite:
4)Den Gehäuseboden entfernen.
5)Den Stecker von der Leiterplatte des Trommelmotors abziehen.
6)Die 3 Schrauben entfernen,die die Trommeleinheit halten.
Oberseite:
7)Die komplette Trommeleinheit nach oben herausziehen.
Zur Beachtung während der Arbeiten:
Die Videoköpfe nicht mit Fingern oder Werkzeugen berühren.
Einstellungen nach dem Wiedereinbau:
Abgleicharbeiten nach dem Austausch der Kopftrommel.

4. Capstan-Schwungrad-Motor (Bild 7-4)
1)Den Gehäuseboden entfernen.
2)Den Wickeltellerriemen entfernen.
3)Den Stecker abziehen.
4)Die 3 Schrauben entfernen und den Capstan-Schwungrad-Motor entfernen.
* Die Capstanwelle nach Aus- und Wiedereinbau sauber halten!

5. Fädelmotor mit Mechanischem Zustandsschalter (Bild 7-5)
1)Obere Gehäuseschale entfernen.
2)Eine Lasche lösen und den Cassettenverschlußöffner entfernen.
3)Den Stecker abziehen.
4)Die 2 Laschen lösen, die den Mechanischen Zustandsschalter halten.
5)Die 4 Laschen lösen, und während die 2 Arretiernasen der Fädelmotorhalterung von den Gewindebohrungen am Motor freigegeben werden, den Fädelmotor mit Mechanischem Zustandsschalter herausziehen.

3. Cylinder Motor Assembly (Fig. 7-3)
1)Remove the top cover.
2)Remove one screw and the ground brush.
3)Pull out the preamp P.C.B .
Bottom side:
4)Remove the bottom cover.
5)Disconnect the connector from the cylinder motor circuit board.
6)Remove 3 screws holding the cylinder.
Top side:
7)Pull out the cylinder motor assembly upward.
Cautions during work:
Do not touch the video head tips with fingers or tools.
Adjustments after reinstallation:
Adjustments after replacing the cylinder.

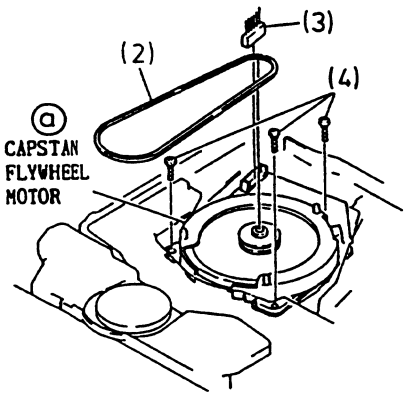
4. Capstan Flywheel Motor (Fig. 7-4)
1)Remove the bottom cover.
2)Remove the reel belt.
3)Disconnect the connector.
4)Remove 3 screws and pull out the capstan flywheel motor.
* Keep the capstan shaft clean when removing and reinstalling the capstan flywheel motor.

5. Loading Motor/Mechanism State Switch Assembly
1)Remove the top cover.
2)Release one tab and remove the cassette lid opener.
3)Disconnect the connector.
4)Release 2 tabs holding the mechanism state switch.
5)Release 4 tabs, and while releasing two bosses of the motor holder from the screw holes in the motor, lift up the loading motor/mechanism state switch assembly.

3. Unita' motore del cilindro (Fig.7-3)
1)Rimuovere il coperchio della scatola.
2)Svitare la vite e rimuovere la spazzola di massa.
3)Estrarre la scheda del modulo preamplificatore.
Parte inferiore:
4)Togliere il pannello di base.
5)Scollegare lo spinotto della scheda motore del cilindro.
6)Svitare le tre viti di fissaggio del tamburo della testina.
Parte superiore:
7)Estrarre verso l'alto il tamburo della testina.
Durante i lavori osservare quanto segue:
Non toccare le testine con le mani o arnesi.
Regolazioni dopo il montaggio:
Controllo dopo il cambio della testina.

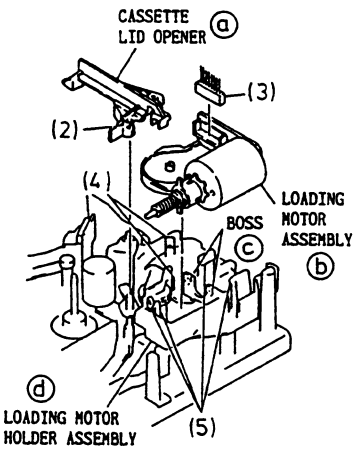
4. Motore Capstan (Fig.7-4)
1)Togliere il pannello di base.
2)Rimuovere la cinghia del disco.
3)Staccare lo spinotto.
4)Svitare le tre viti ed estrarre il motore Capstan.
* Pulire l'asse del mulinello dopo lo smontaggio/montaggio.

5. Motore inserimento nastro e interruttore meccanico (Fig.7-5)
1)Eliminare la parte superiore.
2)Sbloccare la linguetta e rimuovere l'apriportello.
3)Estrarre il collegamento a spina.
4)Sbloccare le due linguette dell'interruttore meccanico.
5)Sbloccare 4 linguette ed estrarre motore e interruttore dopo aver sbloccato i due naselli del supporto dai fori nel motore.



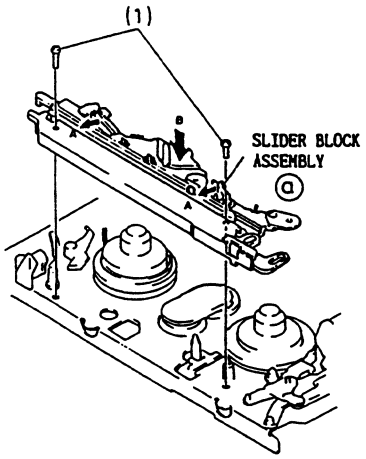
Bild/Fig.7-4 Capstanschwungradmotor
Capstan Flywheel Motor
Motore Capstan

(a)Capstanschwungradmotor
Motore Capstan



Bild/Fig.7-5 Fädelmotor mit Mechanischem Zustandsschalter
Loading Motor/Mechanism State Switch Assembly
Motore inserimento nastro e interruttore meccanico

(a)Cassettenverschlußöffner
Apriportello cassetta
(b)Fädelmotor, komplett
Motore inserimento nastro, completo
(c)Arretiernase / Nasello di arresto
(d)Fädelmotorhalterung, komplett
Supporto motore di inserimento



Bild/Fig.7-6 Schubstangenblock
Slider Block
Biellette

(a)Schubstangenbaugruppe
Gruppo biellette

* Nachfolgende Komponenten der Punkte 6 bis 19 sind so beschrieben, als ob obere Gehäuseschale, Gehäuseboden, Frontplatte und Cassettenlademechanismus schon entfernt worden sind.

6. Schubstangenblock (Bild 7-6)
1)Die 2 Schrauben entfernen.
Vorsicht beim Einbau.

* Den Schubstangenblock wiedereinsetzen während beide Hilfsbremsen und die Vorratsteller-Hauptbremse in Pfeilrichtung gedrückt werden.
* Kontrollieren, ob die Bolzen der Fädelmotorträgereinheit in die Schubstangen eingesetzt sind.

* Components in items 6-19 are described as if the top and bottom covers, front panel and cassette loading mechanism have already been removed.

6. Slider Block (Fig. 7-6)
1)Remove 2 screws.
Cautions on installation.

* Reinstall the slider block while pressing both subbrakes and the supply main brake in the directions of the arrows.
* Check that the bosses of the load bracket assembly are inserted into the sliders.

* La descrizione dei lavori dal punto 6 a 19 presuppone lo smontaggio del coperchio e del pianale della scatola, del pannellp frontale e del gruppo meccanico di caricamento.

6. Biellette (Fig.7-6)
1)Togliere le 2 viti.
Durante il montaggio osservare quanto segue:
* Le biellette sono montate spostando in direzione della freccia i due freni ausiliari ed il freno dello svolgimento.
* Verificare che i perni del supporto motore inserimento nastro siano inseriti correttamente nelle biellette.

7. Bandzughebel/Bremsband (Bild 7-7)

1)Die Feder zwischen Bandzughebel und Federhalterung entfernen.
2)Die Bremsbandbefestigungsschraube entfernen.
3)Den Bandzughebel aus der Lagerbuchse lösen, die Vorratstellerhilfsbremse in Pfeilrichtung bewegen und das Bremsband mit Bandzughebel entfernen.

8. Wickeltellerantriebszahnrad (Bild 7-8)

1)Den Schubstangenblock entfernen.
2)Das Wickeltellerantriebszahnrad von der Achse des Aufwickelzahnrades abziehen.

7. Tension Arm/Tension Band (Fig. 7-7)

1)Remove the spring between the tension arm and spring holder.
2)Remove the tension band retaining screw.
3)Release the fitting with the tension arm, move the supply subbrake in the direction of the arrow and remove the tension band and tension arm.

8. Reel Drive Gear (Fig. 7-8)

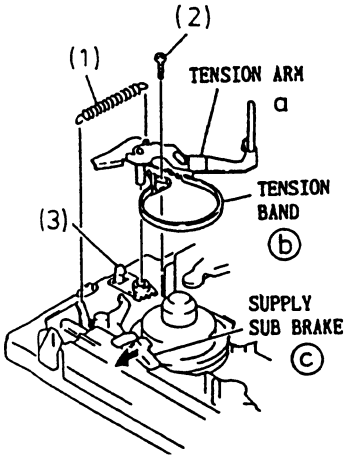
1)Remove the slider block.
2)Pull out the reel drive gear from the take-up gear shaft.

7. Leva di tensionamento/freno a nastro (Fig.7-7)

1)Rimuovere la molla fra leva e supporto.
2)Svitare la vite di fissaggio freno a nastro.
3)Estrarre la leva dalla boccola, spostare il freno di svolgimento in direzione della freccia e rimuovere il freno e la leva.

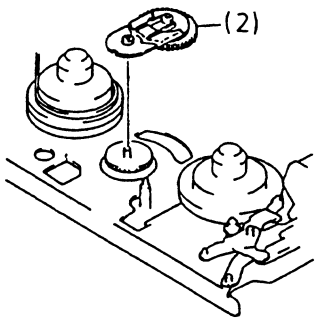
8. Ingranaggio del piatto di avvolgimento (Fig.7-8)

1)Rimuovere il gruppo biellette.
2)Estrarre l'ingranaggio di trasporto del piatto di avvolgimento dall'asse dell'ingranaggio conduttore di avvolgimento.



Bild/Fig.7-7 Bandzughebel/Bremsband
Tension Arm/Tension Band
Leva tensionamento nastro/freno a nastro

(a)Bandzughebel
Leva di tensionamento
(b)Bremsband / Freno a nastro
(c)Vorratstellerhilfsbremse
Freno ausiliario di svolgimento



Bild/Fig.7-8 Wickeltellerantriebszahnrad
Reel Drive Gear
Ingranaggio di trasporto del piatto di avvolgimento

9. Vorratsteller (Bild 7-9)

1)Den Schubstangenblock entfernen.
2)Bandzughebel und Bremsband entfernen.
3)Den Vorratsteller herausnehmen.

Vorsicht beim Wiedereinbau.
* Kontrollieren, ob die Unterlegscheibe auf die Wickeltellerachse aufgesetzt ist.

Einstellungen nach dem Wiedereinbau:
* Einstellungen der Bandzughebelposition und des Bandzugs, Justage der Wickeltellerhöhe

10. Aufwickelteller (Bild 7-10)

1)Den Schubstangenblock entfernen.
2)Die Aufwickelbremse in Pfeilrichtung bewegen und den Aufwickelteller herausziehen.

Vorsicht beim Wiedereinbau.
* Kontrollieren, ob die Unterlegscheibe auf die Wickeltellerachse aufgesetzt ist.

Einstellungen nach dem Wiedereinbau:
* Einstellung der Wickeltellerhöhe.

9. Supply Reel Disk (Fig. 7-9)

1)Remove the slider block.
2)Remove the tension arm and tension band.
3)Pull out the supply reel disk.

Caution on reinstallation.
* Check that the washer is put on the reel disk installation shaft.

Adjustments after reinstallation:
* Tension Pole Position and Tension Adjustments, Reel Disk Height Adjustment

10. Take-up Reel Disk (Fig. 7-10)

1)Remove the slider block.
2)Move the take-up brake in the direction of the arrow and pull out the take-up reel disk.

Caution on reinstallation.
* Check that a washer is put on the reel disk installation shaft.

Adjustments after reinstallation:
* Reel Disk Height Adjustment.

9. Disco di svolgimento nastro (Fig.7-9)

1)Rimuovere il gruppo biellette.
2)Estrarre la leva di tensionamento e il freno a nastro.
3)Estrarre il disco di svolgimento.

Attenzione nel rimontaggio!
* Verificare che la rondella sia inserita sull'asse lato avvolgimento.

Regolazioni dopo il montaggio:
* Regolare il freno a nastro, la posizione della leva di tensionamento e l'altezza del disco.

10. Disco di avvolgimento nastro (Fig.7-10)

1)Rimuovere il gruppo biellette.
2)Spostare il freno di avvolgimento in direzione della freccia e sfilare il disco.

Attenzione nel rimontaggio!
* Verificare che la rondella sia inserita sull'asse di avvolgimento.

Regolazioni dopo il montaggio:
* Regolazione dell'altezza del disco.

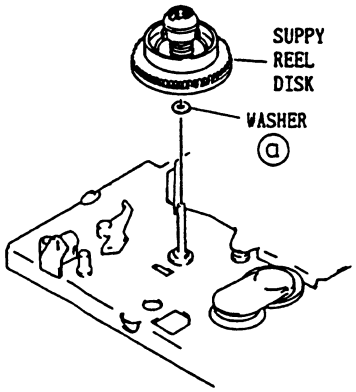
11. Andruckrolle (Bild 7-11)
1)Eine Lasche lösen und den Cassettenverschluß entfernen.
2)Die Andruckrolle herausziehen.
Vorsicht beim Wiedereinbau.
* Kontrollieren, ob der Stift der Andruckrolle in die Bohrung des Andruckrollenbetätigungshebels eingesetzt ist.
* Die mit dem Band in Berührung kommende Oberfläche der Andruckrolle sauber halten.

11. Pressure Roller (Fig. 7-11)
1)Release one tab and remove the cassette lid opener.
2)Pull out the pressure roller.
Cautions on reinstallation.
* Check that the pin of the pressure roller is inserted into the hole in the pressure roller operation arm.

* Clean the surface of the pressure roller that comes into contact with tape.

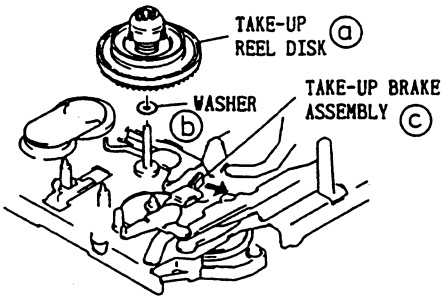
11. Rullo pressore (Fig.7-11)
1)Sbloccare la linguetta e rimuovere il apriportello cassetta.
2)Estrarre il rullo pressore.
Attenzione nel rimontaggio!
* Verificare che il perno del rullo pressore sia inserito nel foro della leva di comando.

* Pulire la superficie del rullo a contatto con il nastro.



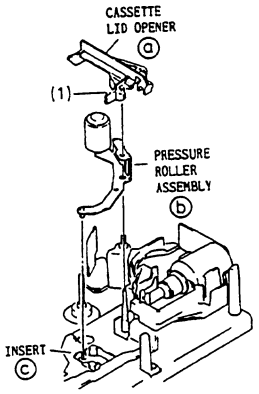
Bild/Fig.7-9 Vorratsteller
Supply Reel Disk
Disco di svolgimento nastro

(a)Unterlegscheibe / Rondella



Bild/Fig.7-10 Aufwickelteller
Take-up Reel Disk
Disco di avvolgimento nastro

(a)Aufwickelteller
Disco di avvolgimento
(b)Aufwickelbremse, komplett
Freno avvolgimento, completo
(c)Unterlegscheibe / Rondella



Bild/Fig.7-11 Andruckrolle
Pressure Roller
Rullo pressore

(a)Cassettenverschlußöffner
Apriportello cassetta
(b)Andruckrollenbaugruppe
Gruppo rullo pressore
(c)Einhängepunkt / Inserimento

12. Bandführungsstift, abwickelseitig (Bild 7-12)
1)Die Befestigungsschraube des Bandführungsstifts lösen und den Bandführungsstift abziehen.
Vorsicht beim Wiedereinbau.
* Die mit dem Band in Berührung kommende Oberfläche des Bandführungsstiftes sauber halten.
Einstellung nach dem Wiedereinbau:
* Justage der Bandführungsstifthöhe.

12. Supply Guide Pole (Fig. 7-12)

1)Loosen the guide pole retaining screw and pull out the guide pole.

Caution on reinstallation.
* Clean the surface of the guide pole that comes into contact with tape.

Adjustment after reinstallation:
* Guide Pole Height Adjustment.

12. Perno di guida nastro (lato svolgimento, Fig.7-12)
1)Svitare la vite di fissaggio ed estrarre il perno.

Attenzione nel rimontaggio!
* Pulire la superficie del perno di guida a contatto con il nastro.

Regolazioni dopo il montaggio:
Regolazione dell'altezza del perno guida nastro.

13. Bandführungsstift, aufwickelseitig (Bild 7-13)
1)Die Befestigungsschraube des Bandführungsstifts lösen und den Bandführungsstift abziehen.
Vorsicht beim Wiedereinbau.
* Die mit dem Band in Berührung kommende Oberfläche des Bandführungsstiftes sauber halten.
Einstellung nach dem Wiedereinbau:
* Justage der Bandführungsstifthöhe.

13. Take-up Guide Pole (Fig. 7-13)

1)Loosen the guide pole retaining screw and pull out the guide pole.

Caution on reinstallation.
* Clean the surface of the guide pole that comes into contact with tape.

Adjustment after reinstallation:
* Guide Pole Height Adjustment.

13. Perno guida nastro (lato avvolgimento, (Fig.7-13)
1)Svitare la vite di fissaggio del perno ed estrarre il perno.

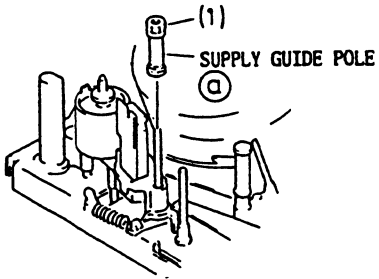
Attenzione nel rimontaggio!
* Pulire la superficie del perno a contatto con il nastro.

Regolazioni dopo il montaggio:
Regolazione dell'altezza del perno guida nastro.

14. Bandführungsrollen (Bild 7-14)
Die gleiche Prozedur beim Aubau der abwickel- und aufwickelseitigen Bandführungsrollen durchführen.
1)Die Imbusschraube zur Befestigung der Bandführungsrolle lösen.
2)Bandführungsrolle entgegen dem Uhrzeigersinn drehen und herausziehen.
Einstellung nach dem Wiedereinbau:
* Justage der Bandführungsrollenhöhe.

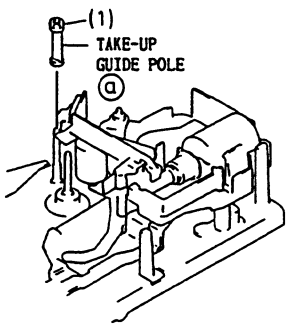
14. Guide Rollers (Fig. 7-14)
Perform the same procedure for removing the supply and take-up guide rollers.
1)Loosen the hexagonal screw retaining the guide roller.
2)Turn the guide roller counterclockwise to pull it out.
Adjustment after reinstallation:
* Guide Roller Height Adjustment.

14. Rulli guida nastro (Fig.7-14)
Seguire la stessa procedura osservata per lo smontaggio del rulli guida nastro lato avvolgimento e svolgimento.
1)Svitare la vite di fissaggio del perno.
2)Per lo smontaggio, girare i rulli guida nastro in senso antiorario.
Regolazioni dopo il montaggio:
Regolare l'altezza dei rulli guida nastro.



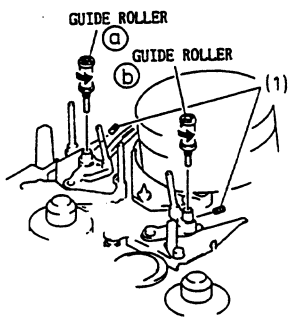
Bild/Fig.7-12 Bandführungsstift, abwickelseitig
Supply Guide Pole
Perno guida nastro (lato svolgimento)

(a)Bandführungsstift, abwickelseitig
Perno guida nastro, lato svolgimento



Bild/Fig.7-13 Bandführungsstift, aufwickelseitig
Take-up Guide Pole
Perno guida nastro (lato avvolgimento)

(a)Bandführungsstift, aufwickelseitig
Perno guida nastro,lato avvolgimento



Bild/Fig.7-14 Bandführungsrollen
Guide Rollers
Rulli guida nastro

(a)Bandführungsrolle / Rullo guida nastro
(b)Imbusschrauben lösen
Svitare la vite a esagono cavo

15. Einfädelmotorblock (Bild 7-15)

1)Eine Lasche lösen und den Cassettenverschlußöffner entfernen.
2)Den Stecker von der Einfädelmotorleiterplatte abziehen.
3)Die 2 Schrauben entfernen und 3 Laschen lösen.
4)Einfädelmotor und Motorhalterung entfernen, wobei Pfeil ^ gehalten wird, so daß der Fädelmotorträger nicht angehoben wird.

16. Bremsverbindungshebel, Bremsschalthebel (Bild 7-16)

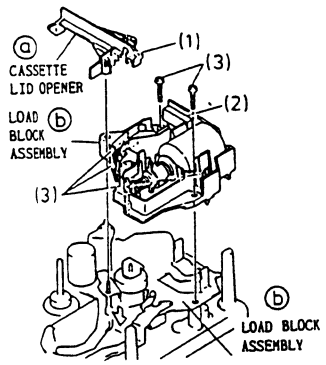
1)Den Schubstangenblock entfernen.
2)Den Einfädelmotorblock entfernen.

3)Eine Lasche lösen und den Bremsschalthebel entfernen.
4)Die Feder zwischen Bremsverbindungshebel und Fädelmotorträger entfernen.
5)Die Nase des Bremshubhebels lösen und den Bremsverbindungshebel entfernen.

17. Hebel für halbe Einfädelung (Bild 7-17)

1)Die Cassettenlademechanik entfernen.

2)Fixierscheibe entfernen, Hebel herausnehmen.
* Das Federende unter dem Hebel für halbe Einfädelung am aufwickelseitigen Bandführungsstift einhängen, den Federanfang an der Nase des Hebels für halbe Einfädelung.



Bild/Fig.7-15 Einfädelmotorblock
Loading Motor Block
Motore inserimento nastro

(a)Cassettenverschlußöffner
Apriportello videocassette
(b)Einfädelbaugruppe
Modulo inserimento nastro

18. Relaishebel (Bild 7-18)

1)Die Cassettenlademechanik entfernen.

2)Den Hebel für halbe Einfädelung entfernen.
3)Die Verriegelung in Pfeilrichtung bewegen und den Relaishebel entfernen.

19. Fädelmotorträger (Bild 7-19)

1)Den Schubstangenblock entfernen.
2)Den Aufwickelteller entfernen.
3)Die Andruckrolle entfernen.
4)Den Einfädelmotorblock entfernen.
5)Den Bremsverbindungshebel entfernen.

6)Eine Schraube entfernen, den Zapfen des Einfädelzahnrads aus dem Loch im Bremshubhebel ziehen und den Fädelmotorträger herausheben.

15. Loading Motor Block (Fig. 7-15)

1)Release one tab and remove the cassette lid opener.
2)Disconnect the connector from the loading motor circuit board.
3)Remove 2 screws and release 3 tabs.

4)Remove the loading motor and motor holder while holding arrow ^ so that the load bracket assembly does not lift.

16. Brake Link Arm, Brake Change Arm (Fig. 7-16)

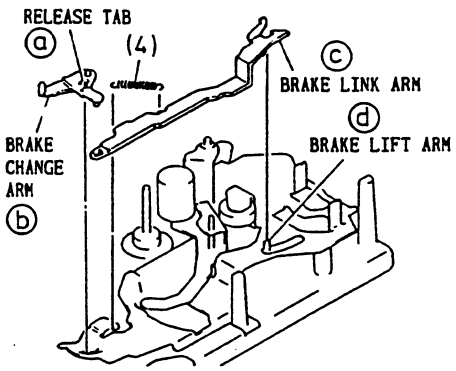
1)Remove the slider block.
2)Remove the loading motor block.

3)Release one tab and remove the brake change arm.
4)Remove the spring between the brake link arm and load bracket.

5)Release the boss of the brake lift arm and remove the brake link arm.

17. Half Loading Arm (Fig. 7-17)

1)Remove the cassette loading mechanism.
2)Remove the washer and pull it upward.
* Hook the bottom of the spring under the half loading arm to the take-up guide pole and the top to the stopper of the half loading arm.



Bild/Fig.7-16 Bremsverbindungshebel, Bremsschalthebel
Brake Link Arm,Brake Change Arm
Leva collegamento sistema frenante, leva comando freno

(a)Lasche lösen
Sbloccare la linguetta
(b)Bremsschalthebel
Leva comando freno
(c)Bremsverbindungshebel
Leva di collegamento sist. frenante
(d)Bremshubhebel
Leva di corsa del freno

18. Relay Arm (Fig. 7-18)

1)Remove the cassette loading mechanism.
2)Remove the half loading arm.

3)Move the stopper in the direction of the arrow and remove the relay arm.

19. Load Bracket (Fig. 7-19)

1)Remove the slider block.
2)Remove the take-up reel disk.
3)Remove the pressure roller.
4)Remove the loading motor block.
5)Remove the brake link arm.

6)Remove one screw, pull out the boss of the loading slide gear from the hole in the lift arm and lift up the load bracket.

15. Gruppo motore inserimento nastro (Fig.7-15)

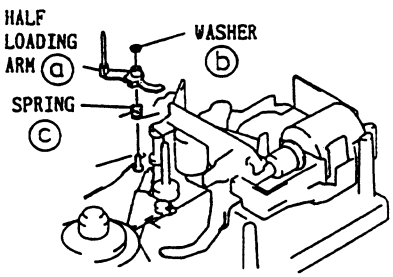
1)Sbloccare la linguetta e rimuovere l'apriportello.
2)Scollegare lo spinotto della scheda motore inserimento nastro.
3)Svitare le 2 viti e sbloccare le 3 linguette.
4)Estrarre il motore inserimento nastro e gli elementi di fissaggio rispettando la direzione della freccia verso l'alto per non sollevare il supporto del motore.

16. Leva di collegamento sistema frenante, leva comando freno (Fig.7-16)

1)Estrarre il gruppo biellette.
2)Rimuovere il motore inserimento nastro.
3)Sbloccare la linguetta ed estrarre la leva comando freno.
4)Smontare la molla fra leva di collegamento sistema frenante e supporto motore inserimento nastro.
5)Liberare l'estremita' della leva di corsa del freno e rimuovere quella di collegamento.

17. Leva mezzo inserimento nastro (Fig.7-17)

1)Estrarre il gruppo meccanico caricamento videocassetta.
2)Rimuovere la rondella di fissaggio ed estrarre la leva.
* Agganciare un'estremita' della molla al perno di guida nastro lato avvolgimento, sotto la leva di mezzo inserimento nastro, e l'altra estremita' al nasello della leva di mezzo inserimento.



Bild/Fig.7-17 Hebel f. halbe Einfädelung
Half Loading Arm
Leva mezzo inserimento nastro

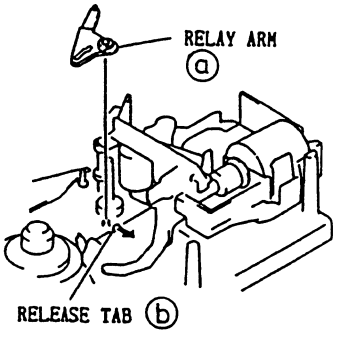
(a)Hebel für halbe Einfädelung
Leva mezzo inserimento nastro
(b)Fixierscheibe
Rondella di fissaggio
(c)Feder / Molla

18. Leva del relais (Fig.7-18)

1)Estrarre il gruppo meccanico caricamento cassetta.
2)Rimuovere la leva mezzo inserimento nastro .
3)Spostare il perno di bloccaggio in direzione della freccia ed estrarre la leva del relais.

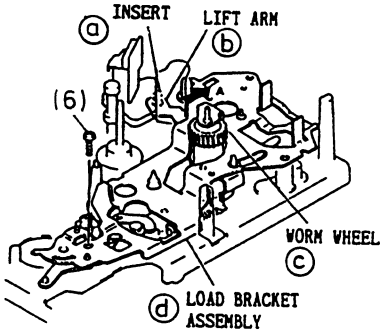
19. Supporto motore inserimento nastro (Fig.7-19)

1)Rimuovere le biellette.
2)Eliminare il disco di avvolgimento.
3)Eliminare il rullo pressore.
4)Estrarre il motore inserimento nastro.
5)Smontare la leva di collegamento del sistema frenante.
6)Svitare la vite,estrarre il perno dell'ingranaggio inserimento nastro dal foro della leva di corsa freno e rimuovere il supporto motore.

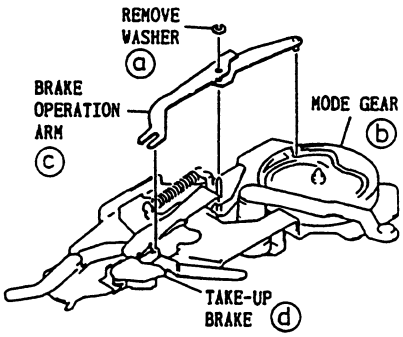


Bild/Fig.7-18 Relaishebel
Relay Arm
Leva del relais

(a)Relaishebel
Leva del relais
(b)Lasche lösen
Sbloccare la linguetta



Bild/Fig.7-19 Fädelmotorträger
Load Bracket
Supporto motore inserimento nastro
(a)Einhängepunkt / Inserimento
(b)Hubhebel / Leva di corsa
(c)Schneckenrad
Ingranaggio elicoidale
(d)Fädelmotorträger, komplett
Supporto motore inserimento nastro



Bild/Fig.7-20 Bremsenbetätigungshebel
Brake Operation Arm
Leva comando freno

(a)Fixierscheibe entfernen
Rimuovere la rondella di fissaggio
(b)Steuerkurvenrad / Disco a curve
(c)Bremsenbetätigungshebel
Leva comando freno
(d)Aufwickeltellerbremse
Freno disco avvolgimento

* Die Komponenten,beschrieben in Punkte 20 bis 33, werden so dargestellt, als ob der Fädelmotorträger schon entfernt worden ist.

20. Bremsenbetätigungshebel (Bild 7-20)
1)Die Fixierscheibe entfernen und den Bremsenbetätigungshebel herausziehen.

Vorsicht beim Wiedereinbau:
* Kontrollieren, ob der Zapfen des Bremsenbetätigungshebels in der Führungsrille des Steuerkurvenrads eingesetzt ist und der Zapfen der Aufwickelbremse im Schlitz des Bremsenbetätigungshebels.

21. Steuerkurvenrad (Bild 7-21A/B)
1)Den Bremsenbetätigungshebel entfernen.
2)Den Hubhebel entfernen.
3)Das Steuerkurvenrad herausziehen.

Vorsicht beim Wiedereinbau:
* Kontrollieren, ob die Zapfen der Hebel in den richtigen Führungsrillen auf dem Steuerkurvenrad eingesetzt sind.

22. Schneckenrad (Bild 7-22)
1)Den Bremsenbetätigungshebel entfernen.
2)Den Hubhebel entfernen.
3)Das Steuerkurvenrad entfernen.
4)Das Schneckenrad herausziehen.

* Components in items 20 to 33 are described as if the load bracket has already been removed.

20. Brake Operation Arm (Fig. 7-20)
1)Remove the washer and pull out the brake operation arm.

Caution on reinstallation:
* Check that the boss of the brake operation arm is inserted into the groove in the mode gear, and the boss of the take-up brake is inserted into the groove in the brake operation arm.

21. Mode Gear (Fig. 7-21A/B)
1)Remove the brake operation arm.
2)Remove the lift arm.
3)Pull out the mode gear.

Caution on reinstallation:
* Check that the bosses of the levers are inserted into the specified grooves in the mode gear.

22. Worm Wheel (Fig. 7-22)
1)Remove the brake operation arm.
2)Remove the lift arm.
3)Remove the mode gear.
4)Pull out the worm wheel.

* La descrizione dei lavori da 30 a 33 presuppone la rimozione del supporto motore inserimento nastro.

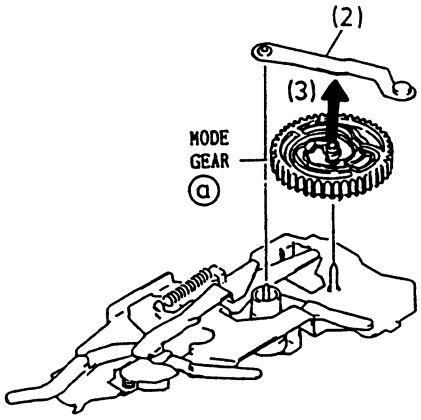
20. Leva comando freno (Fig.7-20)
1)Smontare la rondella di fissaggio ed estrarre la leva di comando freno.

Attenzione nel rimontaggio:
* Verificare che la spina della leva comando freno sia inserita correttamente nella scanalatura del disco a curve e la spina del freno lato avvolgimento nella fessura della leva di comando freno.

21. Disco a curve (Fig.7-21-A/B)
1)Smontare la leva di comando freno.
2)Rimuovere la leva di corsa.
3)Sfilare il disco a curve.

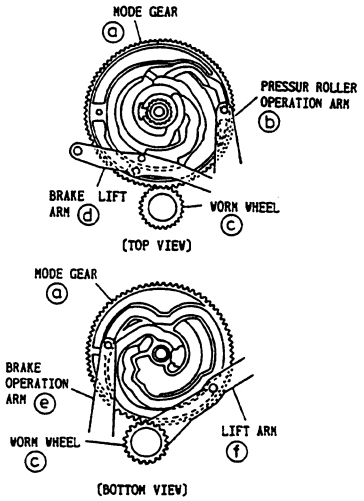
Attenzione nel rimontaggio:
* Verificare che la guida della leva sia inserita correttamente nella scanalatura del disco a curve.

22. Ingranaggio elicoidale (Fig.7-22)
1)Smontare la leva di comando freno.
2)Rimuovere la leva di corsa.
3)Rimuovere il disco a curve.
4)Estrarre l'ingranaggio elicoidale.



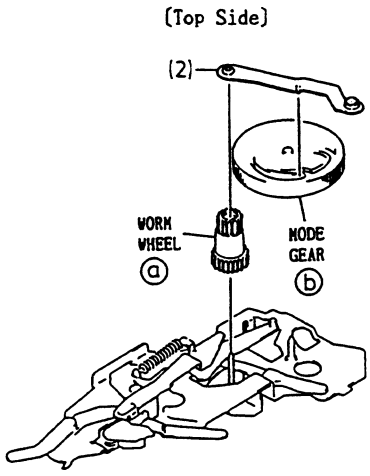
Bild/Fig.7-21A Steuerkurvenrad
Mode Gear
Disco a curve

(a)Steuerkurvenrad / Disco a curve



Bild/Fig.7-21B Steuerkurvenrad
Mode Gear
Disco a curve

(a)Steuerkurvenrad / Disco a curve
(b)Andruckrollenbetätigungshebel
Leva comando rullo pressore
(c)Schneckenrad
Ingranaggio elicoidale
(d)Bremshubhebel / Leva corsa freno
(e)Bremsenbetätigungshebel
Leva comando freno
(f)Hubhebel / Leva di corsa



Bild/Fig.7-22 Schneckenrad (Oberseite)
Worm Wheel (Top Side)
Ingranaggio elicoidale
(parte superiore)

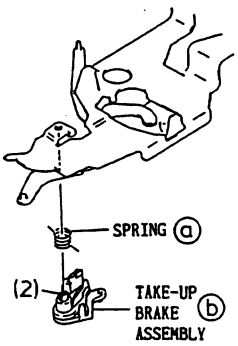
(a)Hubhebel
Leva di corsa
(b)Steuerkurvenrad
Disco a curve
(c)Schneckenrad
Ingranaggio elicoidale

23. Aufwickelbremse (Bild 7-23)
1)Den Bremsenbetätigungshebel entfernen.
2)Eine Lasche lösen und die Aufwickelbremse entfernen.

24. Andruckrollenbetätigungshebel, Funktionssteuerhebel (Bild 7-24)
1)Den Bremsenbetätigungshebel entfernen.
2)Das Steuerkurvenrad entfernen.
3)Die Feder zwischen Andruckrollenbetätigungshebel und Einfädelmotorträger entfernen.
4)Den Andruckrollenbetätigungshebel herausziehen.
5)Eine Lasche lösen und den Funktionssteuerhebel entfernen.

Vorsicht beim Wiedereinbau:
* Kontrollieren, ob der Zapfen des Andruckrollenbetätigungshebels zwischen Andruckrollenantriebshebel und der Erhebung des Einfädelmotorträgers eingesetzt ist.

25. Bremshubhebel (Bild 7-25)
1)Den Bremsenbetätigungshebel entfernen.
2)Das Steuerkurvenrad entfernen.
3)Den Andruckrollenbetätigungshebel entfernen.
4)Den Bremshubhebel herausziehen.



Bild/Fig.7-23 Aufwickelbremse
Take-up Brake
Freno lato avvolgimento
(a)Feder / Molla
(b)Aufwickelbremse,komplett
Freno lato avvolgimento

23. Take-up Brake (Fig. 7-23)
1)Remove the brake operation arm.

2)Release one tab and remove the take-up brake.

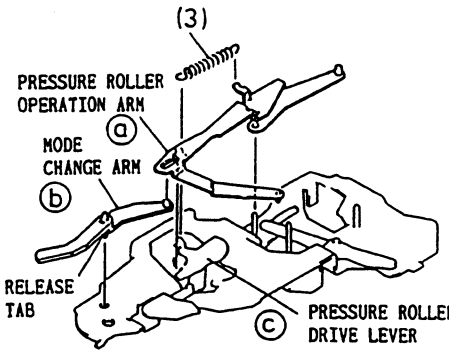
24. Pressure Roller Operation Arm, Mode Change Arm (Fig. 7-24)
1)Remove the brake operation arm.

2)Remove the mode gear.
3)Remove the spring between the pressure roller operation arm and load bracket.
4)Pull out the pressure roller operation arm.
5)Release one tab and remove the mode change arm.

Caution on reinstallation:
* Check that the boss of the pressure roller operation arm is inserted between the pressure roller drive lever and the rise of the load bracket.

25. Brake Lift Arm (Fig. 7-25)
1)Remove the brake operation arm.

2)Remove the mode gear.
3)Remove the pressure roller operation arm.
4)Pull out the brake lift arm.



Bild/Fig.7-24 Andruckrollenbetätigungshebel, Funktionssteuerhebel
Pressure Roller Operation Arm, Mode Change Arm
Leva azionamento rullo pressore, leva comando funzioni

(a)Andruckrollenbetätigungshebel
Leva azionamento rullo pressore
(b)Funktionssteuerhebel
Leva comando funzioni
(c)Andruckrollenantriebshebel
Leva di comando per il rullo pressore

23. Freno lato avvolgimento (Fig.7-23)
1)Smontare la leva di comando freno.

2)Sbloccare la linguetta ed estrarre il freno.

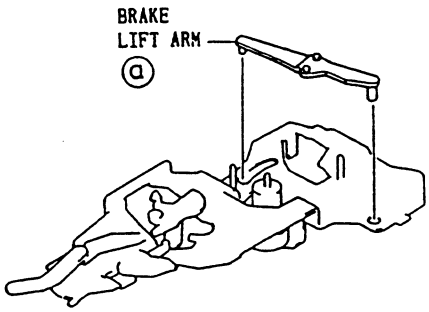
24. Leva azionamento rullo di pressione, leva comando funzioni (Fig.7-24)
1)Smontare la leva comando freno.

2)Rimuovere il disco a curve.
3)Smontare la molla fra la leva di comando del rullo pressore ed il supporto motore inserimento nastro.
4)Estrarre la leva di comando rullo pressore.
5)Sbloccare la linguetta e rimuovere la leva comando funzioni.

Attenzione nel rimontaggio:
* Verificare che il perno della leva di comando del rullo pressore sia inserito fra la leva del rullo pressore e la sporgenza del supporto motore inserimento nastro.

25. Leva corsa freno (Fig.7-25)
1)Smontare la leva comando freno.

2)Smontare il disco a curve.
3)Rimuovere la leva di azionamento rullo pressore.
4)Estrarre la leva corsa freno.



Bild/Fig.7-25 Bremsenhubhebel
Brake Lift Arm
Leva corsa freno

(a)Bremsenhubhebel / Leva corsa freno

26. Bremshebel (Bild 7-26)
1)Die Cassettenlademechanik entfernen.

2)Den Schubstangenblock entfernen.
3)Den Aufwickelteller entfernen.
4)Die Feder zwischen FS-Bremshebel und Laufwerkchassis entfernen.
5)Eine Lasche lösen und den FS-Bremshebel herausziehen.

27. Trommelmotorbasis (Bild 7-27)
1)Die Cassettenlademechanik entfernen.

2)Die komplette Trommelmotoreinheit entfernen.
3)Bandzughebel und Bremsband entfernen.

4)Die 3 Schrauben entfernen und die Trommelmotorbasis entfernen.

26. Brake Arm (Fig. 7-26)
1)Remove the cassette loading mechanism.
2)Remove the slider block.
3)Remove the take-up reel disk.
4)Remove the spring between the FS brake arm and mechanism chassis.
5)Release one tab and pull out the FS brake arm.

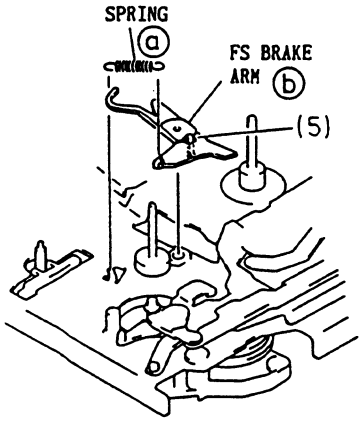
27. Cylinder Motor Base (Fig. 7-27)
1)Remove the cassette loading mechanism.
2)Remove the cylinder motor assembly.

3)Remove the tension arm and tension band.

4)Remove 3 screws and take out the cylinder motor base.

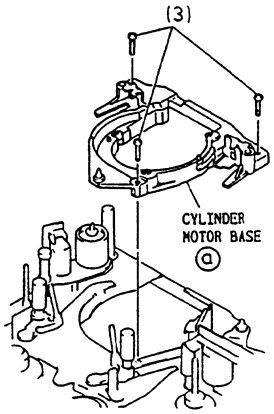
26. Leva freno (Fig.7-26)
1)Smontare il gruppo meccanico caricamento videocassetta.
2)Rimuovere le biellette.
3)Estrarre il disco di avvolgimento.
4)Smontare la molla fra leva freno FS e telaio.
5)Sbloccare una linguetta ed estrarre la leva del freno FS.

27. Base motore tamburo (Fig.7-27)
1)Smontare il gruppo meccanico caricamento videocassetta.
2)Rimuovere il motore tamburo completo.
3)Estrarre la leva di tensionamento meccanico del nastro e il freno a nastro.
4)Svitare le 3 viti ed estrarre la base del motore tamburo.



Bild/Fig.7-26 Bremshebel, Brake Arm
Leva del freno

(a)Feder
Molla
(b)FS-Bremshebel
Leva del freno FS



Bild/Fig.7-27 Trommelmotorbasis
Cylinder Motor Base
Base motore tamburo

(a)Trommelmotorbasis
Base motore tamburo

28. Einfädelhebel, abwickel-/aufwickelseitig (Bild 7-28-1)
1)Die Trommelmotorbasis entfernen.
2)Eine Schraube entfernen.
3)Eine Lasche lösen und die Führungsbasiseinspannplatte mit den darauf montierten Bandführungsrollen entfernen.
4)Eine Lasche lösen und den aufwickelseitigen Einfädelhebel entfernen.

5)Den abwickelseitigen Einfädelhebel entfernen.
Vorsicht beim Wiedereinbau:
* Die Markierungen auf jedem Zahnrad zueinander ausrichten (Bild 7-28-3).

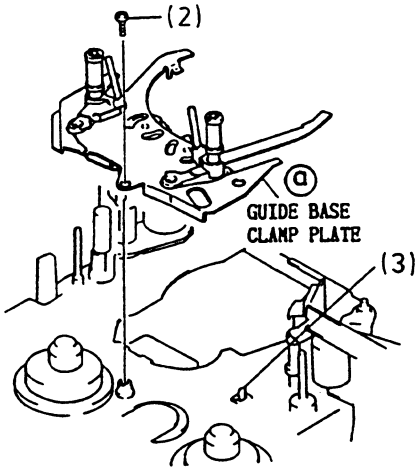
28. Supply/Take-up Loading Arms (Fig. 7-28-1)
1)Remove the cylinder motor base.
2)Remove one screw.
3)Release one tab and remove the guide base clamp plate with the supply/take-up guide rollers assembled on it.
4)Release one tab and remove the take-up loading arm.

5)Remove the supply loading arm.

Caution on reinstallation:
* Align the markings on each gear . (Fig. 7-28-3)

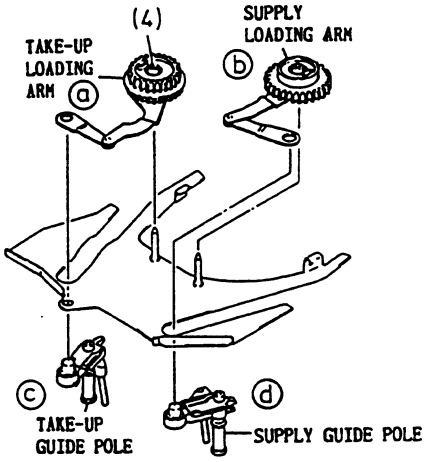
28. Leva inserimento nastro, lato svolgimento e avvolgimento (Fig.7-28-1)
1)Smontare la base motore tamburo.
2)Eliminare una vite.
3)Sbloccare la linguette ed estrarre la piastra di fissaggio della base guide con i rulli guida nastro.

4)Sbloccare la linguetta e smontare la leva di inserimento nastro lato svolgimento.
5)Estrarre la leva di inserimento nastro lato avvolgimento.
Attenzione nel rimontaggio:
* Verificare la rispondenza dei contrassegni sugli ingranaggi (Fig.7-28-3).



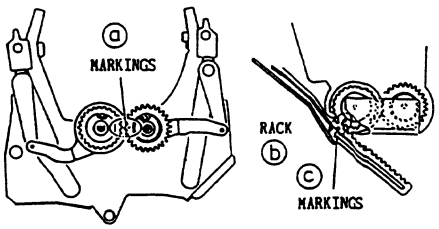
Bild/Fig.7-28-1

(a)Führungsbasiseinspannplatte
Piastra di fissagio della base delle guide
(c)Lasche lösen
Sbloccare la linguetta



Bild/Fig.7-28-2

(a)aufwickelseitiger Einfädelhebel
Leva di inserzione nastro lato avvolgimento
(b)abwickelseitiger Einfädelhebel
Leva di inserzione nastro lato svolgimento
(c)Bandführungsstift, aufwickelseitig
Perno guida nastro, lato avvolgim.
(d)Bandführungsstift, abwickelseitig
Perno guida nastro, lato svolgimento



Bild/Fig.7-28-3
(a)Markierungen
Contrassegni
(b)Zahnstange
Cremagliera

29. Aufwickelriemenscheibe (Bild 7-29)
1)Den Gehäuseboden entfernen.
2)Den Wickeltellerriemen entfernen.

3)Die Fixierscheibe entfernen und die Aufwickelriemenscheibe herausziehen.

30. Kupplungsgetriebe (Bild 7-30)

1)Die Cassettenlademechanik entfernen.

2)Den Schubstangenblock entfernen.
3)Das Wickeltellerantriebszahnrad entfernen.
4)Den Wickeltellerriemen entfernen.
5)Die 2 Schrauben entfernen und das komplette Kupplungsgetriebe herausnehmen. Darauf achten, daß das Aufwickelzahnrad zu diesem Zeitpunkt entfernt ist.

29. Take-up Pulley (Fig. 7-29)
1)Remove the bottom cover.
2)Remove the reel belt.

3)Remove the washer and pull out the take-up pulley.

30. Clutch Gear (Fig. 7-30)

1)Remove the cassette loading mechanism.
2)Remove the slider block.
3)Remove the reel drive gear.

4)Remove the reel belt.
5)Remove 2 screws and take out the clutch gear assembly. Take care that the take-up gear is removed at this time.

29. Puleggia lato avvolgimento(Fig.7-29)
1)Rimuovere il pianale della scatola.
2)Estrarre la cinghia del disco di avvolgimento.
3)Smontare la rondella di fissaggio e sfilare la puleggia.

30. Ingranaggi giunto di trasmissione (Fig.7-30)
1)Smontare il gruppo meccanico caricamento cassetta.
2)Rimuovere il gruppo biellette.
3)Estrarre l'ingranaggio di trasporto disco avvolgimento.
4)Rimuovere la cinghia dal disco.
5)Svitare le 2 viti ed estrarre il giunto; l'ingranaggio di avvolgimento deve esser gia' stato rimosso.

31. Aufwickelzahnrad (Bild 7-31)

1)Die Cassettenlademechanik entfernen.

2)Den Schubstangenblock entfernen.
3)Das Wickeltellerantriebszahnrad entfernen.
4)Das komplette Kupplungsgetriebe entfernen.
5)Die Fixierscheibe entfernen und das Aufwickelzahnrad herausziehen.

31. Take-up Gear (Fig. 7-31)

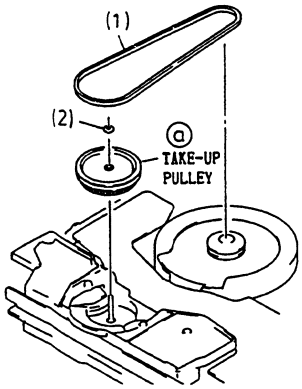
1)Remove the cassette loading mechanism.
2)Remove the slider block.
3)Remove the reel drive gear.

4)Remove the clutch gear assembly.

5)Remove the washer and pull out the take-up gear.

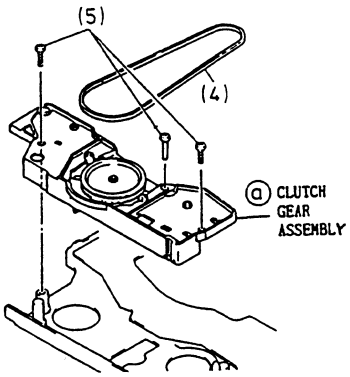
31. Ingranaggio di avvolgimento (Fig.7-31)
1)Smontare il gruppo meccanico caricamento cassetta.
2)Rimuovere il gruppo biellette.
3)Estrarre l'ingranaggio di trasporto disco di avvopolgimento.
4)Estrarre gli ingranaggi del giunto.

5)Smontare la rondella di fissaggio ed estrarre l'ingranaggio di avvolgimento.

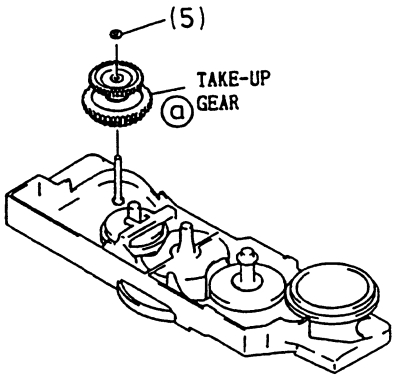


Bild/Fig.7-29 Aufwickelriemenscheibe
Take-up Pulley
Puleggia di avvolgimento

(a)Wickeltellerriemen
Cinghia del disco per nastro



Bild/Fig.7-30 Kupplungsgetriebe
Clutch Gear
Gruppo ingranaggi del giunto di trasmissione
(a)Kupplungsgetriebe,komplett
Gruppo ingranaggi del giunto di trasmissioneriebe, komplett



Bild/Fig.7-31 Aufwickelzahnrad
Take-up Gear
Ingranaggio di avvolgimento

(a)Aufwickelzahnrad
Ingranaggio di avvolgimento

32. Schalthebel,Schaltzahnrad (Bild 7-32)
1)Die Cassettenlademechanik entfernen.

2)Den Schubstangenblock entfernen.
3)Das Wickeltellerantriebszahnrad entfernen.
4)Das Kupplungsgetriebe entfernen.

5)Das Aufwickelzahnrad entfernen.

6)Eine Lasche lösen und die Feder des Kupplungshebels entfernen.
7)Die 2 Laschen lösen und den Schalthebel entfernen.
8)Die Fixierscheibe entfernen und das Aufwickelzahnrad herausnehmen.
Vorsicht beim Wiedereinbau:
* Kontrollieren, ob Feder und Scheibe so eingesetzt sind, wie es im Bild dargestellt wird.

32. Change Arm, Change Gear (Fig.7-32)

1)Remove the cassette loading mechanism.
2)Remove the slider block.
3)Remove the reel drive gear.

4)Remove the clutch gear.

5)Remove the take-up gear.

6)Release one tab and remove the spring of the clutch arm.
7)Release 2 tabs and remove the change arm.
8)Remove the washer and pull out the change gear.
Caution on reinstallation:
* Check that the spring and washer are put on as shown in the figure.

32. Leva di commutazione, ingranaggio di commutazione (Fig.7-32)
1)Rimuovere il gruppo meccanico caricamento cassetta.
2)Rimuovere le biellette.
3)Estrarre l'ingranaggio di trasporto disco avvolgimento.
4)Estrarre il gruppo ingranaggi del giunto.
5)Estrarre l'ingranaggio di avvolgimento.
6)Staccare una staffa e togliere la molla della leva di giunzone.
7)Sbloccare le 2 linguette ed estrarre la leva di commutazione.
8)Smontare la rondella di fissaggio e sfilare l'ingranaggio di avvolgimento
Attenzione nel rimontaggio:
* Verificare che la molla e la rondella siano montate correttamente (vedi figura).

33. Relais-Zahnrad (Bild 7-33)
1)Die Cassettenlademechanik entfernen.

2)Den Schubstangenblock entfernen.
3)Das Wickeltellerantriebszahnrad entfernen.
4)Das Kupplungsgetriebe entfernen.

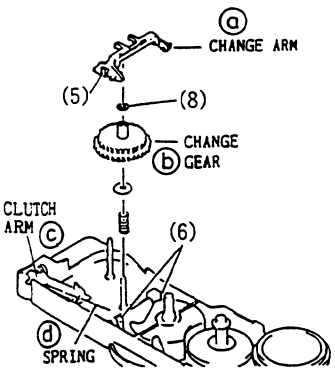
5)Eine Lasche lösen und das Relaiszahnrad entfernen.

33. Relay Gear (Fig. 7-33)
1)Remove the cassette loading mechanism.
2)Remove the slider block.
3)Remove the reel drive gear.

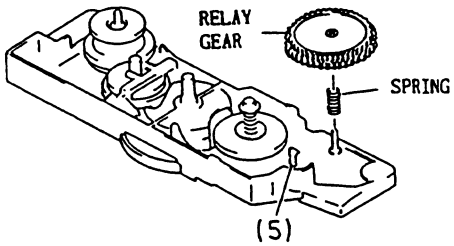
4)Remove the clutch base assembly.

5)Release one tab and remove the relay gear.

33. Ingranaggio del relais (Fig.7-33)
1)Rimuovere il gruppo meccanico caricamento cassetta.
2)Rimuovere il gruppo di biellette.
3)Estrarre l'ingranaggio di trasporto disco avvolgimento.
4)Estrarre il gruppo ingranaggi del giunto di trasmissione.
5)Sbloccare la linguetta ed estrarre l'ingranaggio del relais.



Bild/Fig.7-32 Schalthebel, Schaltzahnrad
Change Arm,Change Gear
Levetta di commutazione,ingranaggio di commutazione
(a)Schalthebel / Leva di commutazione
(b)Schaltzahnrad / Ingranaggio di commutazione
(c)Kupplungshebel / Leva di giunzione
(d)Feder / Molla



Bild/Fig.7-33 Relaiszahnrad
Relay Gear
Ingranaggio del relais

(a)Relaiszahnrad
Ingranaggio del relais
(b)Feder / Molla

34. FL-Schaltzahnrad, FL-Schalthebel (Bild 7-34)

1)Die Cassettenlademechanik entfernen.

2)Den Schubstangenblock entfernen.
3)Das Wickeltellerantriebszahnrad entfernen.
4)Das Kupplungsgetriebe entfernen.

5)Die Kappe, Feder und Unterlegscheibe entfernen, dann das FL-Schaltzahnrad herausnehmen.
6)Die 2 Laschen lösen und den FL-Schalthebel entfernen.

34. FL Change Gear, FL Change Arm (Fig. 7-34)

1)Remove the cassette loading mechanism.
2)Remove the slider block.
3)Remove the reel drive gear.

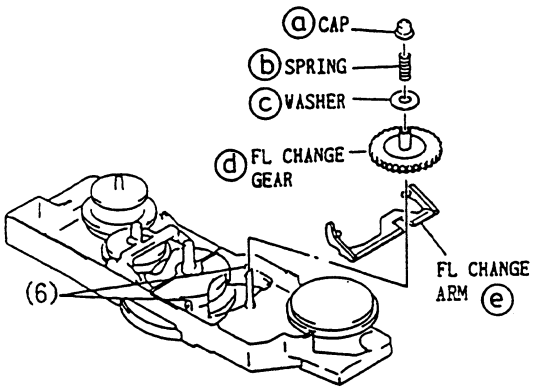
4)Remove the clutch base assembly.

5)Remove the cap, spring and washer, and pull out the FL change gear.

6)Release 2 tabs and remove the FL change arm.

34. Ingranaggio e leva di commutazione FL (Fig.7-34)

1)Rimuovere il gruppo meccanico di caricamento cassetta.
2)Rimuovere il gruppo di biellette.
3)Estrarre l'ingranaggio di trasporto del disco di avvolgimento.
4)Estrarre il gruppo ingranaggi del giunto di trasmissione.
5)Rimuovere il coperchietto, la molla e la rondella, poi estrarre l'ingranaggio FL.
6)Sbloccare le 2 linguette ed estrarre la leva di commutazione FL.



(a)Kappe / Coperchietto
(b)Feder / Molla
(c)Unterlegscheibe /Rondella
(d)FL-Schaltzahnrad
Ingranaggio di commutazione FL
(e)FL-Schalthebel
Leva di commutazione FL

Bild/Fig.7-34 FL-Schaltzahnrad,FL-Schalthebel
FL Change Gear, FL Change Arm
Ingranaggio e leva di commutazione FL

ABGLEICH DER ELEKTRISCHEN SCHALTKREISE

Testgeräte:

1) Farbfernsehgerät
2) 2-Strahl-Oszilloskop
3) Elektrisches Multimeter
4) Gleichspannungsvoltmeter
5) Farbbalkengenerator
6) Frequenzzähler
7) Abgleichband / HiFi-Abgleichband
8) Leercassette

Zur Beachtung beim Abgleich

1) Wenn nichts anderes angegeben ist, dann wird der Abgleich unter folgenden Bedingungen durchgeführt:
* Oszilloskoptastkopf 10:1
* Synchronisation: AUTO SYNC
* Tracking-Regler: Mittelraststellung

2) Wird mehr als ein Abgleich durchgeführt,muß das in der beschriebenen Reihenfolge durchgeführt werden!

Resetting der Mikroprozessoren
Alle Mikroprozessoren in diesem Gerät werden nach dem Ziehen des Netzsteckers zurückgesetzt.
Der Back-up-Schaltkreis des Timer-Mikroprozessors verhindert jedoch die Resetfunktion für etwa 15 Min. ab dem Ziehen des Netzsteckers.
Für die Resetfunktion S751 auf der Timer-Leiterplatte bedienen.

ELECTRIC CIRCUIT ADJUSTMENT

Test equipment:

1) Color TV set
2) Dual-trace oscilloscope
3) VTVM
4) DC voltmeter
5) Colour bar signal generator
6) Frequency counter
7) Alignment tape/Hi-Fi alignment tape
8) Blank tape

Cautions on adjustments

1) If there are no special instructions the following conditions apply:
* Oscilloscope probe 10:1
* Synchronization : Auto-Sync
* Tracking control: center click

2)When making more than one adjustment, make those adjustments in the order listed.

Resetting microprocessors
All microprocessors installed in the unit will be reset once the AC power lead is removed from the wall socket. However,the timer microprocessor's back-up circuit keeps it from resetting until about 15 minutes after power off. Operate S751 on the timer circuit board to reset it.

TARATURA DEI CIRCUITI ELETTRICI

Strumenti:

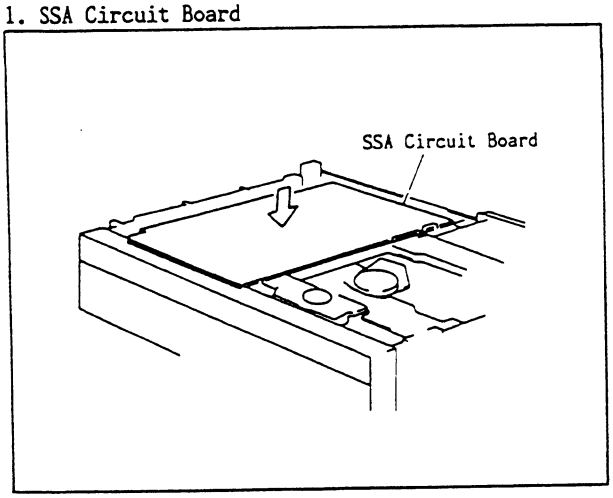
1) Televisore a colori
2) Oscilloscopio a due raggi
3) Multimetro Elettronico
4) Voltmetro corrente continua
5) Generatore di barre a colori
6) Frequenzometro
7) Nastro di taratura/Nastro di taratura HiFi
8) Nastro vuoto

Da osservare nell'allineamento

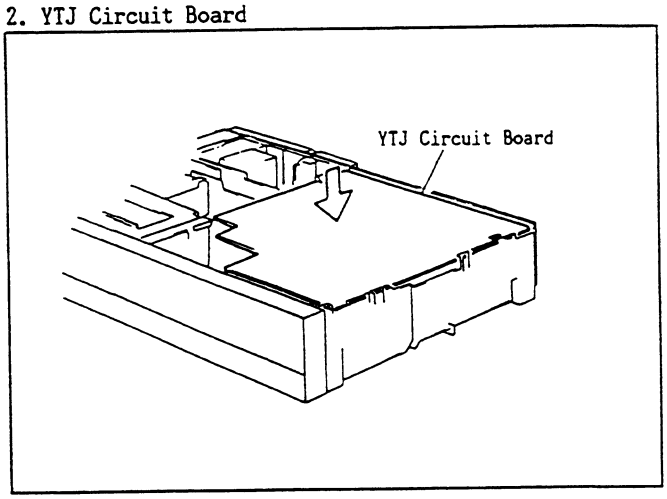
1) Nel caso non venga indicato nient'altro, l'allineamento va svolto alle seguenti condizioni:
* Testa testatrice dell'oscilloscopio
* Sincronizzazione: AUTO SYNC
* Regolatore tracking: Posizione di incastro media
2) Se vine eseguito piu' di un allineamento, questo deve venire eseguito nella successione descritta!

Resettamento dei microprocessori.
Tutti i microprocessori di questo apparecchio vengono resettati dopo l'estrazione della spina.
Il circuito di commutazione back-up del microprocessore timer impedisce tuttavia la funzione reset per circa 15 minuti a partire dal momento in cui viene estratta la spina.
Per la funzione di reset S751 agire sulla piastra del timer.

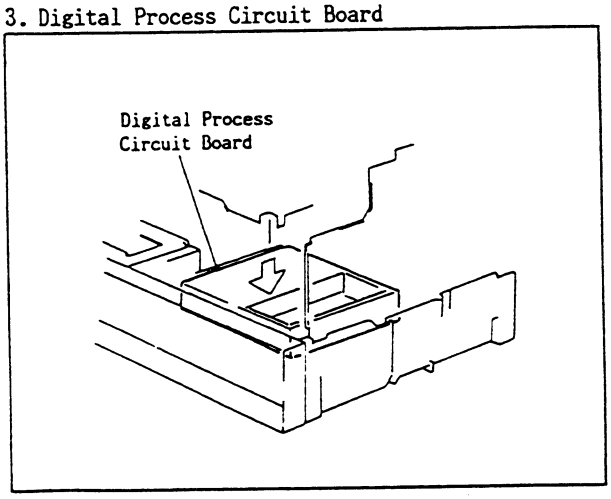
1. SSA Circuit Board

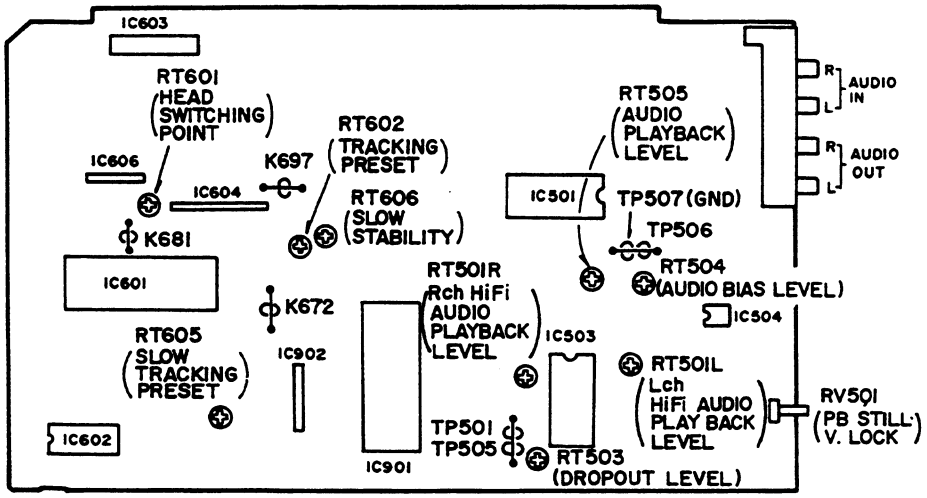


2. YTJ Circuit Board

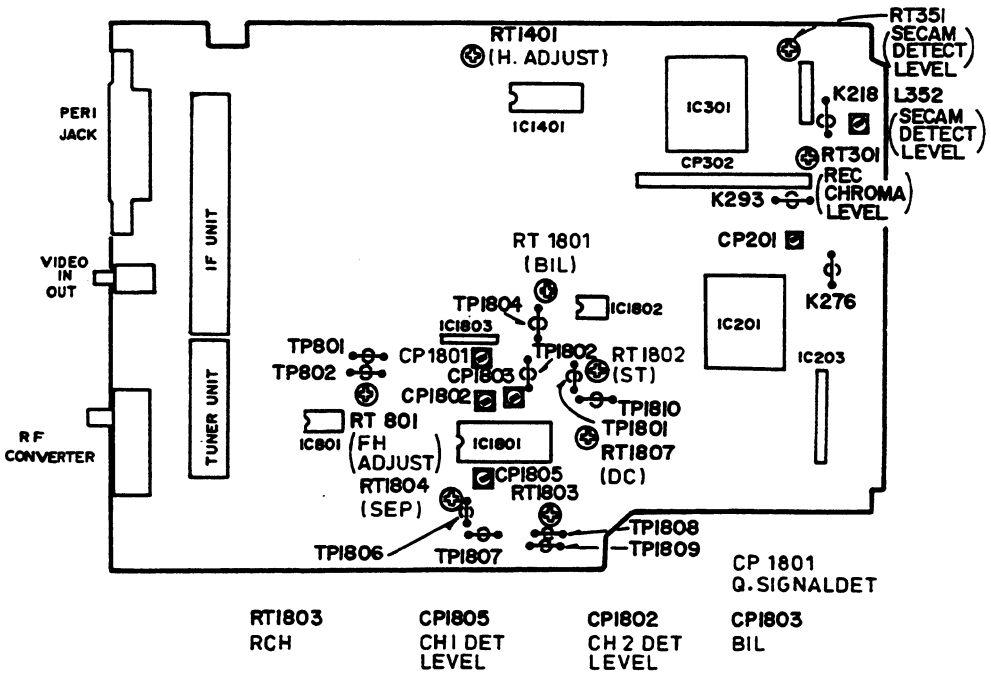


3. Digital Process Circuit Board

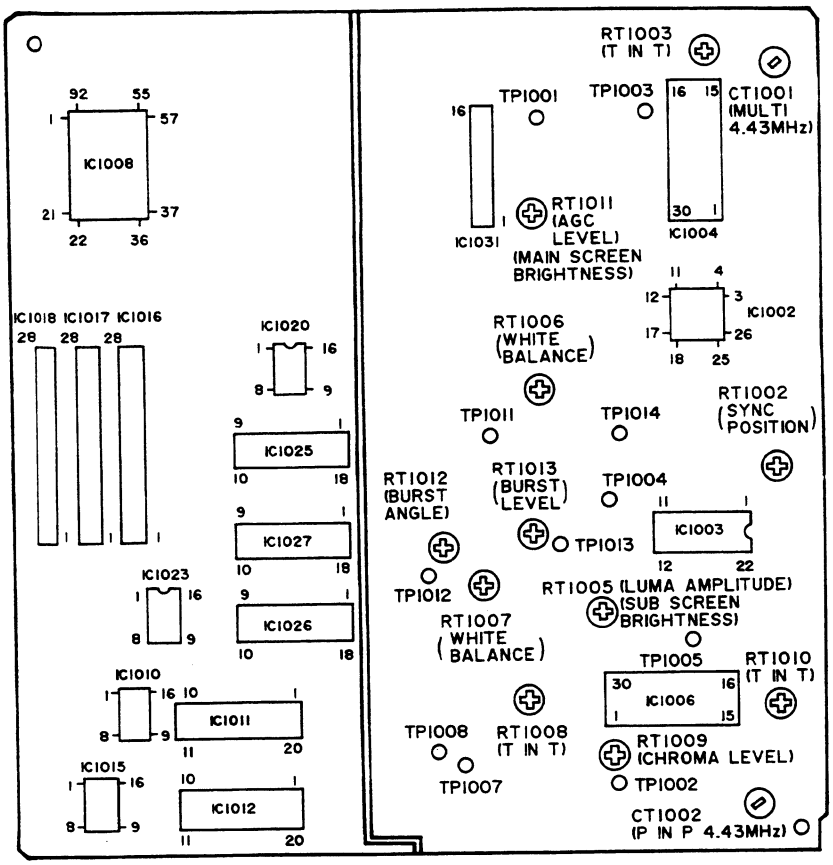




Bild/Fig.1 Bauteile der SSA-Leiterplatte
(Lötseite)
Components on SSA P.C.B
(Solder Side)
Componenti della piastra SSA
(lato saldature)



Bild/Fig.2 Bauteile der YTJ-Leiterplatte
(Lötseite)
Components on YTJ P.C.B
(Solder Side)
Componenti della piastra YTJ
(lato saldature)



Bild/Fig.3 Bauteile der Ltpl. Digitalverarbeitung (Bauteileseite)
Components on Digital Process P.C.B (Components Side)
Componenti della piastra di elaborazione digitale (lato componenti)

1. SERVO-ABGLEICH

1) Abgleich Kopfumschaltpunkt

Fehlererscheinung bei Fehlabgleich

Zweck: Den Videokopfumschaltpunkt genau auf die Mitte einstellen, wo sich bei der Wiedergabe die CH1- und CH2-Hüllkurven jeweils überlappen.

Fehler: Verkleinertes Vertikalsynchronsignal. Vertikales Zittern tritt auf. Umschaltstörungen im unteren Bildteil.

1. SERVO CIRCUIT ADJUSTMENT

1) Head Switching Point Adjustment

Purpose of adjustment and fault occurring if incomplete

Purpose: Set the video head switching point to almost centre where the CH1 and CH2 envelopes overlap each other during playback.

Fault: The vertical sync signal is degraded and vertical jitter occurs. Switching noise occurs in lower part of picture.

1. SERVOALLINEAMENTO

1) Aggiustaggio del punto di commutazione della testa

Apparizione errore con allineamento errato

Scopo: Regolare il punto di commutazione della testina video esattamente nel centro, dove si sovrappongono gli inviluppi CH1 e CH2.

Errore: Segnale di sincronia verticale rimpicciolito. Comparizione di un tremolio verticale. Disturbi di commutazione nella parte inferiore del quadro.

Meßgeräte/Hilfsmittel Test Equipment/Jigs Apparecchi di misurazione/ mezzi ausiliarii	Meßpunkte Connection Points Punti di misurazione	Betriebszustand d. Videorec. VTR State Impostazioni sul videoregistratore	Abgleichpunkt Adjustment Point Punto di taratura
Oszilloskop Abgleichband	CH1: Video-Ausgang CH1: K6B1 (SW25Hz)	Abgleichband wiedergeben Play back alignment tape Riprodurre il nastro di allineamento	RT 601 (HEAD SWITCHING POINT)
Oscilloscope Alignment tape	CH1: video out CH2: K6B1 (SW25Hz)	(Graubalkensignal) (Stair steps) (Segnale di barre)	
Oscilloscopio Nastro di taratura	CH1: uscita video CH2: K6B1 (SW25Hz)		

Oszilloskopeinstellungen	Oscilloscope settings	Regolazione dell'oscilloscopio
1. Triggerwahlschalter auf "-" einstellen. 2. Mit CH2 triggern.	1. Set sync slope switch to "-". 2. Trigger with CH2 .	1. Porre il selettore dell'eccitatore su "-". 2. Eccitare con CH2.

Abgleichvorgang	Adjustment Procedure	Procedura per la taratura
Vertikal-Synchronsignal: Auf 416us +/- 32us ab der fallenden Flanke (Triggerpunkt) des SW25Hz-Signals einstellen. Nachdem dieser Abgleich beendet ist, den REC-TIMING-Impuls wie folgt prüfen: 1. Eine Leercassette laden und den VTR auf Aufnahme stellen. 2. Kontrollieren, ob der REC-TIMING-Puls zwischen 5H und 8H liegt. 3. Falls der REC-TIMING-Puls unter 5H liegt, R692 (1,5MOhm) entfernen.	Vertical sync signal: 6.5H +/- 0.5H from trailing edge (trigger point) of SW25Hz pulse. After this adjustment is completed, check the REC TIMING pulse as follows. 1. Load a blank tape and set the VTR to the record mode. 2. Check that the REC TIMIG pulse is between 5H and 8H. 3. If the REC TIMING pulse is below 5H, remove R692 (1.5 MOhm)	Sincronizzazione verticale: Porre su 416us +/- 32us a portire dal fianco cadente (punto di eccitazione) del segnale SW25Hz. Dopo questa taratura, controllare come segue l'impulso REC-TIMING: 1. Inserire una cassetta non registrata e commutare il videoregistratore su registrazione. 2. Controllare che l'impulso REC-TIMING sia fra 5H e 8H. 3. Se l'impulso di REC-TIMING e' inferiore a 5H, togliere R692 (1,5MOhm).

2. Abgleich Tracking-Voreinstellung

Fehlererscheinung bei Fehlabgleich

Zweck: Tracking-Optimierung bei der Wiedergabe eigenaufgenommener Bänder (Aufnahmen auf diesem Gerät durchgeführt)

Fehler: Störzonen auch bei Mittelraststellung des Tracking-Reglers, die durch Reglerverstellung nicht beseitigt werden können.

2. Tracking Preset Adjustment

Purpose of adjustment and fault occurring if incomplete

Purpose: Optimize tracking when playing back a tape recorded by this unit.

Fault: Noise occurs even with tracking control centred. Noise cannot be removed by turning the tracking control.

2. Allineamento preregolazione-tracking

Apparizione errore con allineamento errato

Scopo: Ottimazione-tracking con la riproduzione di nastri personalmente (registrazione svolte su questo apparecchio)

Errore: Zone di disturbo anche con il posizionamento centrale del regolatore del tracking che non possono venire eliminate con lo spostamente del regolatore.

Meßgeräte/Hilfsmittel Test Equipment/Jigs Apparecchi di misurazione/ mezzi ausiliarii	Meßpunkte Connection Points Punti di misurazione	Betriebszustand d. Videorec. VTR State Impostazioni sul video-registratore	Abgleichpunkt Adjustment Point Punto di taratura
Oszilloskop Farbbalkengenerator Leercassette Oscilloscope Colour bar generator Blank tape Oscilloscopio Generatore di barre a colori Nastro vuoto	CH1: K681 (SW25Hz) CH2: K672 (CTL PULSE)	Farbbalkensignal aufnehmen und mit diesem Gerät abspielen. Record colour bar signal and play it back. Registrare segnale in banda a colori e riprodurlo con questo apparecchio. Trackingregler: Raststellung Tracking Control: Centre Regol.Tracking: Pos. centrale	RT 602 (TRACKING PRESET)

Oszilloskopeinstellungen
1. Triggerwahlschalter auf "-" einstellen.
2. Mit CH1 triggern.

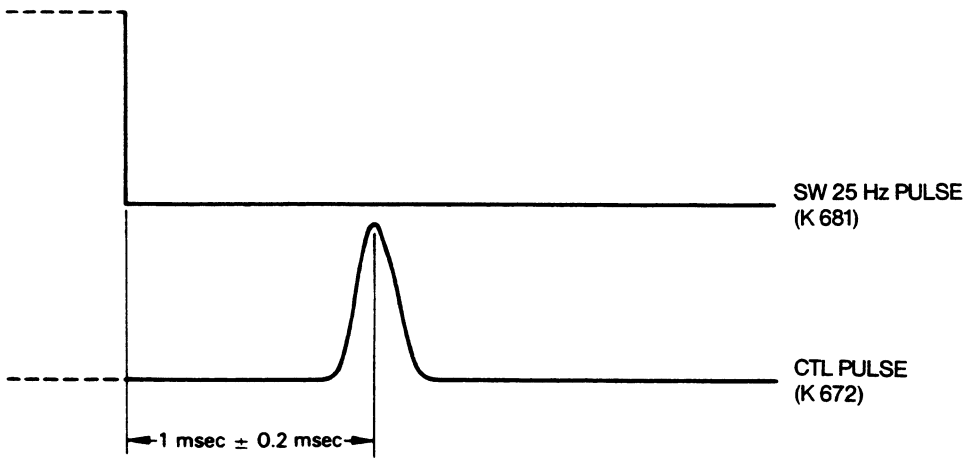
Oscilloscope settings
1. Set sync slope switch to "-".
2. Trigger with CH1 .

Regolazione dell'oscilloscopio
1. Porre il selettore dell'eccitatore su "-".
2. Eccitare con CH1.

Abgleichvorgang
1) Tracking-Regler: Raststellung
2) Auf 1 ms +/- 0,2 ms von der Flanke des 25Hz-Signals bis zur Spitze des CTL-Signals einstellen.

Adjustment Procedure
1) Tracking control: centred
2) It is 1 msec +/- 0.2 msec from the fall of SW 25Hz to the peak of CTL pulse.

Procedura per la taratura
1) Comando regolatore tracking: posizione centrale
2) Regolare su 1ms +/- 0,2ms dal fianco del segnale 25Hz fino alla punta del segnale CTL.



3. Abgleich Zeitlupen-Tracking-Voreinstellung

Fehlererscheinung bei Fehlabgleich

Zweck: Tracking-Optimierung bei der Zeitlupenwiedergabe
Fehler: Ein Rauschbalken erscheint bei Zeitlupenwiedergabe

3. Slow Tracking Preset Adjustment

Purpose of adjustment and fault occurring if incomplete
Purpose: Optimize tracking during slow play
Fault: A noise bar appears in the picture during slow play

3. Taratura rallentatore-tracking-preregolazione

Apparizione errore con allineamento errato
Scopo: ottimazione tracking durante la riproduzione al rallentatore
Errore: durante la riproduzione al rallentatore appare una barre di rumore.

Meßgeräte/Hilfsmittel Test Equipment/Jigs Apparecchi di misurazione/ mezzi ausiliarii	Meßpunkte Connection Points Punti di misurazione	Betriebszustand d. Videorec. VTR State Impostazioni sul video-registratore	Abgleichpunkt Adjustment Point Punto di taratura
Oszilloskop Farbbalkengenerator Leercassette Oscilloscope Colour bar generator Blank tape Oscilloscopio Generatore di barre a colori Nastro vuoto	CH1: K681 (SW25Hz) CH2: K672 (CTL PULSE)	Farbbalkensignal aufnehmen und mit diesem Gerät in Zeitlupe abspielen. Reset-Schalter S751 (auf der Timer-Ltpl.) betätigen, um die Zeitlupen-Tracking-Einstellung elektrisch auf Mittelstellung zu versetzen. Record colour bar signal and play it back with unit in slow mode. Turn on RESET switch S751 (on the timer circuit board) to set the slow tracking to the centre electrically. Registrare il segnale di barre colorate e riprodurlo al rallentatore con questo apparecchio.	RT 605 (SLOW TRACKING PRESET)

Oszilloskopeinstellungen
1. Triggerwahlschalter auf "-" einstellen.
2. Mit CH1 triggern.

Oscilloscope settings
1. Set sync slope switch to "-".
2. Trigger with CH1 .

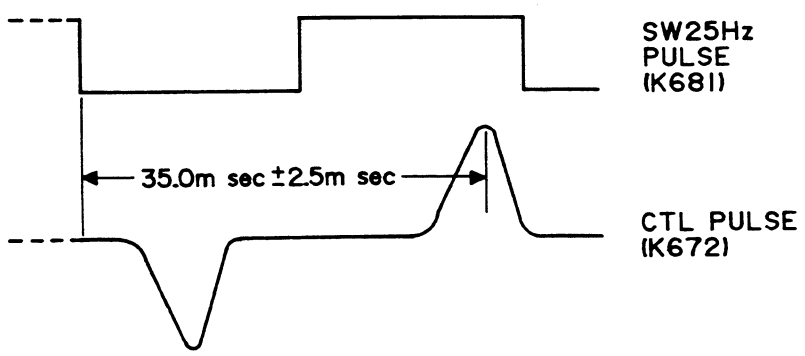
Regolazione dell'oscilloscopio
1. Porre il selettore dell'eccitatore su "-".
2. Eccitare con CH1.

Abgleichvorgang
Auf 35,0ms +/- 2,5 ms von der Flanke des 25Hz-Signals bis zur Spitze des CTL-Signals einstellen.

Adjustment Procedure
It is 35.0msec +/- 2.5 msec from the fall of SW 25Hz to the peak of CTL pulse.

Procedura per la taratura
Regolare su 35,0ms +/- 2,5ms dal fianco del segnale 25Hz fino alla punta del segnale CTL.

Waveforms



4. Abgleich Zeitlupen-Stabilität

Fehlererscheinung bei Fehlabgleich

Zweck: Unterdrückung des horizontalen Zitterns bei Zeitlupenwiedergabe

Fehler: Horizontales Zittern erscheint bei Zeitlupenwiedergabe

4. Slow Stability Adjustment

Purpose of adjustment and fault occurring if incomplete

Purpose: Suppress the horizontal jitter in the picture during slow play

Fault: Horizontal jitter occurs in the picture during slow play

4. Taratura stabilita' rallentatore

Apparizione errore con allineamento errato

Scopo: soppressione del tremolio orizzontale durante la riproduzione al rallentatore

Errore: tremolio orizzontale appare durante la riproduzione al rallentatore

Meßgeräte/Hilfsmittel Test Equipment/Jigs Apparecchi di misurazione/ mezzi ausiliarii	Meßpunkte Connection Points Punti di misurazione	Betriebszustand d. Videorec. VTR State Impostazioni sul video- registratore	Abgleichpunkt Adjustment Point Punto di taratura
Fernsehmonitor Farbbalkengenerator Leercassette Monitor TV Colour bar generator Blank tape Monitore TV Generatore di barre a colori Nastro vuoto	HF-Ausgang Video-Eingang RF out Video in Uscita di alta frequenza Ingresso video	Farbbalkensignal aufnehmen und mit diesem Gerät in Zeitlupe abspielen. RESET-Schalter S751 (auf der Timer-Ltpl. betätigen), um die Zeitlupentrackingeinstellung elektrisch in Mittelstellung zu versetzen. Record colour bar signal and play it back with unit in slow mode. Turn on RESET switch S751 (on timer circuit board) to set the slow tracking to the centre electrically. Registrare il segnale di barre colorate e riprodurlo al rallentatore con questo apparecchio. Azionare l'interruttore RESET S751 (sulla piastra del timer), per centrare elettricamente la traccia del rallentatore.	RT 606 (SLOW STABILITY)

Abgleichvorgang
Das Bild auf minimales horizontales Zittern einstellen.

Adjustment Procedure
Minimize horizontal jitter in the picture.

Procedura per la taratura
Regolare l'immagine su tremolio orizzontale minimo.

5. Abgleich Vertikalsynchronisation

Fehlererscheinung bei Fehlabgleich

Zweck: Timing-Änderung für das Zufügen vertikaler Treiberimpulse und Unterdrückung des Vertikalen Zitterns während der Wiedergabe der Sonderfunktionen (Trick Play).

Fehler: Vertikales Zittern während der Wiedergabe der Sonderfunktionen

5. Vert. Sync. Adjustment

Purpose of adjustment and fault occurring if incomplete

Purpose: Change timing for adding vertical drive pulse and suppress vertical jitter in picture during trick play.

Fault: Vertical jitter during trick play.

5. Taratura sincronizzazione verticale

Apparizione errore con allineamento errato

Scopo: Modifiche del timing per l'aggiunta di impulsi di eccitazione verticali e per l'eliminazione del tremolio verticale durante la riproduzione delle funzioni straordinarie (trick play).

Errori: Tremolio verticale durante la riproduzione delle funzioni straordinarie.

Meßgeräte/Hilfsmittel Test Equipment/Jigs Apparecchi di misurazione/ mezzi ausiliarii	Meßpunkte Connection Points Punti di misurazione	Betriebszustand d. Videorec. VTR State Impostazioni sul video-registratore	Abgleichpunkt Adjustment Point Punto di taratura
Fernsehmonitor Farbbalkengenerator Leercassette	HF-Ausgang Video-Eingang	Farbbalkensignal aufnehmen und auf diesem Gerät in der Betriebsart Standbild wiedergeben.	RV 501 (PB STILL V. LOCK)
Monitor TV Colour bar generator Blank tape	RF out Video in	Record colour bar signal and play it back with unit in STILL mode.	
Monitore TV Generatori di barre a colori Nastro vuoto	Uscita di alta frequenza Ingresso video	Registrare il segnale di barre colorate e riprodurlo nel funzionamento di fermo immagine con questo apparecchio.	

Abgleichvorgang
Vertikales Zittern im Bild beseitigen.

Adjustment Procedure
Suppress vertical jitter in picture.

Processo di allineamento
Eliminare il tremolio verticale sul quadro.

2. ABGLEICH Y/CHROMA
1) Abgleich Chroma-Aufnahmepegel

Fehlererscheinung bei Fehlabgleich

Zweck: Optimale Einstellung des Chroma-Aufnahmepegels.
Fehler: Farbstörungen oder schwache Farbe im wiedergegebenen Bild.

2.Y/CHROMA CIRCUIT ADJUSTMENT
1) Rec Chroma Level Adjustment

Purpose of adjustment and fault occurring if incomplete

Purpose: Set the chroma record level to an optimum value.
Fault: The diamond beats occur in the played back picture or coloring becomes poor.

2. ALLINEAMENTED Y/CHROMA
1) Accordo del livello di registrazione cromatico

Apparizione errore con allineamento errato

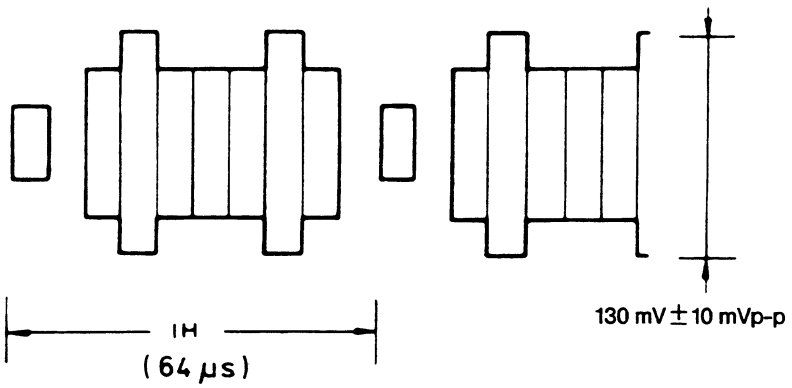
Scopo: Regolazione ottimale del livello di registrazione CHROMA.
Errore: Disturbi nel colore o colore debole nell'immagine riprodotta

Meßgeräte/Hilfsmittel Test Equipment/Jigs Apparecchi di misurazione/ mezzi ausiliarii	Meßpunkte Connection Points Punti di misurazione	Betriebszustand d. Videorec. VTR State Impostazioni sul video-registratore	Abgleichpunkt Adjustment Point Punto di taratura
Oszilloskop Farbbalkengenerator	K293 Video-Eingang	Betriebsart E-E E-E mode Funzionamento in modo E-E	RT 301 REC CHROMA LEVEL
Oscilloscope Colour bar generator	K293 Video in		
Oscilloscopio Generatore di barre a colori	K293 Entrata video		

Abgleichvorgang
Das Oszilloskop zeigt 130mVss +/- 10mVss an.

Adjustment Procedure
The oscilloscope reads 130mVp-p +/- 10mVp-p .

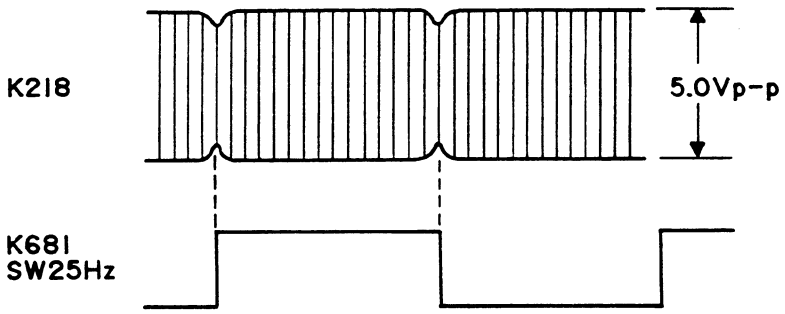
Procedura per la taratura
L'oscilloscopio indica 130mVp-p +/- 10mVp-p .



2. Abgleich SECAM-Detektorpegel	2. SECAM Detect Level Adjustment	2. Allineamente livello detettore SECAM
Fehlererscheinung bei Fehlabgleich Zweck: Einstellung des SECAM-Detektor-pegels auf den vorgeschriebenen Wert.	Purpose of adjustment and fault occurring if incomplete Purpose: Set the SECAM detect level to the specified value.	Apparizione errore nel caso di allinea-mento errato Scopo: Regolazione del livello detettore SECAM secondo il valore dato

Meßgeräte/Hilfsmittel Test Equipment/Jigs Apparecchi di misurazione/ mezzi ausiliarii	Meßpunkte Connection Points Punti di misurazione	Betriebszustand d. Videorec. VTR State Impostazioni sul video-registratore	Abgleichpunkt Adjustment Point Punto di taratura
Oszilloskop (Mit CH2 triggern) SECAM-Farbbalkengenerator	CH1: K218 CH2: K681 (SW25Hz) Video-Eing.	Betriebsart Aufnahme REC mode Funzionamento in modo registrazione	RT 351, L 351 SECAM DETECT LEVEL
Oscilloscope (Trigger with CH2) SECAM colour bar generator	CH1: K218 CH2: K681 (SW25Hz) Video in		
Oscilloscopio (Eccitare con CH2) Generatore di barre colorata SECAM	CH1: K218 CH2: K681 (SW25Hz) Entrata video		

Waveforms



(1) RT 351 voll entgegen dem Uhrzeigersinn drehen.
Girare completamente RT 351 in senso antiorario.

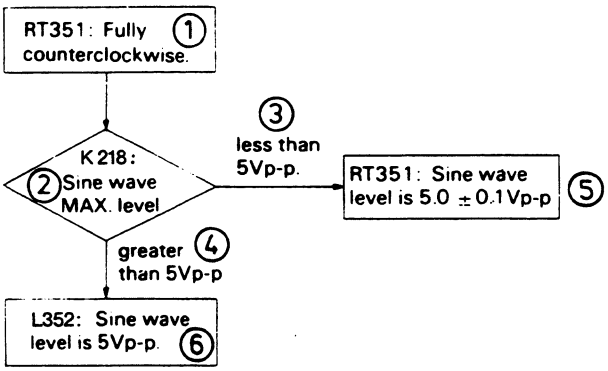
(2) K218: max. Signalamplitude ?
K218: max. ampiezza di segnale?

(3) Weniger als 5 Vss.
Meno di 5Vp-p.

(4) Mehr als 5 Vss .
Piu' di 5Vp-p .

(5) Mit RT 351 auf 5,0 +/- 0,1 Vss einstellen.
Regolare con RT 351 su 5,0 +/- 0,1Vp-p .

(6) Mit L 351 auf 5 Vss einstellen.
Regolare con L 351 su 5Vp-p .



3. AUDIO-ABGLEICH

1. Abgleich HiFi-Audio-Wiedergabepegel

Fehlererscheinung bei Fehlabgleich

Zweck: Einstellung des Audio-Wiedergabepegels auf den vorgeschriebenen Wert.

Fehler: Bei Wiedergabe einer auf einem anderen VTR aufgenommenen Cassette stimmt der Wiedergabe-Pegel nicht überein.

3. AUDIO CIRCUIT ADJUSTMENT

1. Hi-Fi Audio Playback Level Adjustment

Purpose of adjustment and fault occurring if incomplete

Purpose: Set the audio playback level to the specified value.

Fault: When playing back a tape recorded by another VTR the playback level does not match.

3. REGISTRAZIONE DEL CIRCUITO AUDIO

1. Regolazione del livello di riproduzione MF-audio

Apparizione errore nel caso di allineamento errato

Scopo: Regolazione del livello PB OUT sul valore prescritto

Errori: Il livello di segnale non corrisponde a quello originale in caso di riproduzione di una cassetta registrata su altro

Meßgeräte/Hilfsmittel Test Equipment/Jigs Apparecchi di misurazione/ mezzi ausiliarii	Meßpunkte Connection Points Punti di misurazione	Betriebszustand d. Videorec. VTR State Impostazioni sul video-registratore	Abgleichpunkt Adjustment Point Punto di taratura
Abgleichband (HiFi) Elektronisches Multimeter	AUDIO OUT L-Buchse bei Abgleich von RT501L. AUDIO OUT R-Buchse bei Abgleich von RT501R.	HiFi-Abgleichband wiedergeben Playback Hi-Fi alignment tape	RT501L (LCH) RT501R (RCH) (HiFi AUDID PLAYBACK LEVEL)
Alignment tape (Hi-Fi) VTVM	AUDIO OUT L jack when adjusting RT501L. AUDIO OUT R jack when adjusting RT501R.	Riprodurre il nastro di taratura Hi-Fi	
Nastro di taratura (Hi-Fi) Multimetro elettronico	AUDIO OUT presa L per taratura di RT501sx AUDIO OUT presa R per taratura di RT501dx		

Abgleichvorgang:
(Gleicher Vorgang für RT501L und RT501R)
Das Multimeter zeigt -4.8dBm +/-0.1dBm an.

Adjustment Procedure:
(Same for RT501L and RT501R)
The VTVM reads -4.8dBm +/-0.1dBm.

Procedura per la taratura:
(Operazione uguale per RT501sx e RT501dx)
Indicazione sul multimetro: -4.8dBm +/-0.1dBm

Hinweis:
1)Werden zu Meßzwecken die Cinch-Stecker angesteckt, dann diese an beide Kanäle (L und R) anstecken.

2)Nach Beendigung dieses Abgleichs den Dropout-Pegel-Abgleich vornehmen.

Caution:
1)When connecting the pin plugs for measurement, connect them to both the left and right channels.

2)Perform the dropout level adjustment after this adjustment is completed.

Nota:
1)Se per operazioni di misura si inseriscono i connettori Cinch, questi devono essere inseriti sui due canali (DX e SX).

2)Dopo questa taratura, tarare il livello di drop-out.

2. Abgleich Dropout-Pegel

Fehlererscheinung bei Fehlabgleich

Zweck: Einstellung des Dropout-Detektorpegels und Mute-Pegels des FM-Audiosignals.
Fehler: Sogar bei einem unbedeutendem Dropout der Hüllkurve treten Störungen auf.
Bei fehlender Hüllkurve wird nicht von HiFi-Audio auf Linear-Audio umgeschaltet.

2. Dropout Level Adjustment

Purpose of adjustment and fault occurring if incomplete
Purpose: To set the dropout detection level and muting level of FM audio signal.
Fault: Noise occurs even with a minute dropout of envelope.
Hi-Fi audio is not switched to linear audio when an envelope is missed.

2. Sintonia Dropout

Apparizione errore nel caso di allineamento errato
Scopo: Regolazione del livello drop-out del detettore e il livello Mute del segnale audio MF.
Errori: Perfino per un drop-out insignificante della curva di risposta, si verificano disturbi. Se manca la curva di risposta, non si commmuta da audio HiFi a audio lineare.

Meßgeräte/Hilfsmittel Test Equipment/Jigs Apparecchi di misurazione/ mezzi ausiliarii	Meßpunkte Connection Points Punti di misurazione	Betriebszustand d. Videorec. VTR State Impostazioni sul video-registratore	Abgleichpunkt Adjustment Point Punto di taratura
Abgleichband DC-Voltmeter	TP501	Abgleichband wiedergeben	RT402 (DROPOUT LEVEL)
Alignment tape DC voltmeter	TP501	Playback alignment tape	
Nastro di taratura Voltmetro CC	TP501	Riprodurre il nastro di taratura	

Abgleichvorgang:
1)TP505 nach Masse kurzschließen.
2)Das Voltmeter zeigt 2.5V +/-0.1V DC an.
3)Kurzschluß entfernen.

Adjustment Procedure:
1)Short-circuit TP505 and ground.
2)The DC meter reads 2.5V +/-0.1V DC.
3)Release the short-circuit.

Procedura per la taratura:
1)Mettere a massa TP505.
2)Indicazione sul voltmetro: 2.5V +/-0.1V DC
3)Togliere il cortocircuitare a massa.

3. Abgleich Audio-Wiedergabepegel

Fehlererscheinung bei Fehlabgleich

Zweck: Einstellung des Audio-Wiedergabepegels auf den vorgeschriebenen Wert.

Fehler: Bei Wiedergabe einer auf einem anderen VTR aufgenommenen Cassette stimmt der Wiedergabe-Pegel nicht überein.

3. Audio Playback Level Adjustment

Purpose of adjustment and fault occurring if incomplete

Purpose: Set the audio playback level to the specified value.

Fault: When playing back a tape recorded by another VTR the playback level does not match.

3.Taratura livello audio in riproduzione

Apparizione errore nel caso di allineamento errato

Scopo: Regolazione del livello PB OUT sul valore prescritto

Errori: Il livello di segnale non corrisponde a quello originale in caso di riproduzione di una cassetta registrata su altro

Meßgeräte/Hilfsmittel Test Equipment/Jigs Apparecchi di misurazione/ mezzi ausiliarii	Meßpunkte Connection Points Punti di misurazione	Betriebszustand d. Videorec. VTR State Impostazioni sul video- registratore	Abgleichpunkt Adjustment Point Punto di taratura
Abgleichband Elektronisches Multimeter Alignment tape VTVM Nastro di taratura Multimetro elettronico	AUDIO OUT L (Cinch-Buchse) AUDIO OUT L (US Pin jack) AUDIO OUT SX (presa Cinch)	Abgleichband wiedergeben Playback alignment tape Riprodurre il nastro di taratura	RT 505 AUDIO PLAYBACK LEVEL

Abgleichvorgang:
Das Multimeter zeigt -8dBm +/-0.5dBm an.

Adjustment Procedure:
The VTVM reads -8dBm +/-0.5dBm.

Procedura per la taratura:
Indicazione sul multimetro: -8dBm +/-0.5dBm

4. Abgleich Audio-Vormagnetisierung

Fehlererscheinung bei Fehlabgleich

Zweck: Einstellung des Audio-Vormagnetisierungspegels während der Aufnahme auf den vorgeschriebenen Wert.

Fehlererscheinung: Vormagnetisierung zu stark: Verschlechterung der höherfrequenten Wiedergabe
Vormagnetisierung zu schwach: der Ton neigt zu Verzerrungen

4. Audio Bias Level Adjustment

Purpose of adjustment and fault occurring if incomplete

Purpose: Set audio bias during recording to optimum level.

Fault: Bias too high: High-frequency response deteriorates.
Bias too low: Sound tends to be distorted.

4. Regolazione del livello della premagnetizzazione audio

Apparizione errore nel caso di allineamento errato

Scopo: Regolazione ottimale del livello della premagnetizzazione audio durante la registrazione

Errori: Premagnetizzazione troppo forte: pregiudicazione della riproduzione ad alte frequenze
Premagnetizzazione troppo debole: il tono tende a distorcersi.

Meßgeräte/Hilfsmittel Test Equipment/Jigs Apparecchi di misurazione/ mezzi ausiliarii	Meßpunkte Connection Points Punti di misurazione	Betriebszustand d. Videorec. VTR State Impostazioni sul videoregistratore	Abgleichpunkt Adjustment Point Punto di taratura
Leercassette Elektronisches Multimeter Blank tape VTVM Nastro vuoto Multimetro elettronico	TP506 (BIAS) TP507 (BIAS GND)	Aufnahme ohne Signal Non-signal recording Registrazione s e n z a segnale	RT504 (AUDIO BIAS LEVEL)

Abgleichvorgang:
Das Multimeter zeigt 2.5mV +/-0.1mV an.

Adjustment Procedure:
The VTVM reads 2.5mV +/- 0.1mV

Procedura per la taratura:
Indicazione sul multimetro: 2.5mV +/-0.1mV.

4. MULTIPLEX-DEMODULATOR-ABGLEICH

Hinweis: 1) Alle Einstellregler der Demodulatorleiterplatte auf etwa die Mitte ihres Einstellbereiches drehen.
2) Den Audio-Wahlschalter auf CH1 + CH2 schalten.

1. Abgleich Zweitonempfindlichkeit

Fehlererscheinung bei Fehlabgleich

Zweck: Einstellung der Zweitonempfindlichkeit auf den vorgeschriebenen Wert.
Fehler: Die Zweitonempfindlichkeit nimmt ab und Fehlfunktionen treten auf.

Meßgeräte/Hilfsmittel Test Equipment/Jigs Apparecchi di misurazione/ mezzi ausiliarii	Meßpunkte Connection Points Punti di misurazione	Betriebszustand d. Videorec. VTR State Impostazioni sul videoregistratore	Abgleichpunkt Adjustment Point Punto di taratura
NF-Generator Multimeter Frequenzzähler Audio Generator VTVM Frequency counter Generatore audio Multimetro Contatore di frequenza	TP1801 TP1810 TP1801 TP1810 TP1801 TP1810	Betriebsart Stop (Antennenkabel vom VTR abstecken, Tuner auf Leerkanal stellen) Stop mode (Disconnect the aerial cable from the VTR and detune the tuner) Funzionamento Stop (Estrarre il cavo della antenna da VTR, regolare il tuner su canale vuoto)	RT 1807 Dual Sensitivity (DC)

Abgleichvorgang:
1) Ein Signal mit 196Hz, 40mV an TP1801 einspeißen.
2) RT1807 so abgleichen, daß die Gleichspannung an TP1810 6.10V +/-0.05V beträgt.

Adjustment Procedure:
1) Apply a signal of 196Hz, 40mV to TP1801.
2) Adjust RT1807 so that the DC voltage at TP1810 is 6.10V +/-0.05V .

Procedura per la taratura
1) Alimentare TP1801 con un segnale di 196Hz, 40mV.
2) Tarare RT1807 in modo che la tensione continua al TP1810 sia pari a 6.10V +/-0.05V.

4. MULTIPLEX DEMODULATOR ADJUSTMENT

Note: 1)Set all semi-variable resistors on the demodulator board to around the center of their variable ranges.
2)Set the audio channel switch to CH1 + CH2 .

1. Dual Sensitivity Adjustment

Purpose of adjustment and fault occurring if incomplete
Purpose: Set the sound multiplex discrimination sensitivity to the specified value.
Fault: The sound multiplex discrimination sensitivity decreases and a malfunction occurs.

4. SINTONIA DEL CIRCUITO MULTIPLEX-DEMODULATORE

Nota: 1)Ruotare in posizione meccanica intermedia tutti i potenziometri di regolazione sul circuito stampato nella sezione del demodulatore MPX .
2)Portare il selettore canale audio su "CH1 + CH2" .

1. Taratura della sensibilita' bitono

Apparizione errore nel caso di allineamento errato
Scopo: regolazione della sensibilita' bitono sul valore prescritto

Errori: la sensibilita' bitono diminuisce e si verificano delle funzioni errate.

2. Abgleich CH1/CH2-Detektorpegel

Fehlererscheinung bei Fehlabgleich

Zweck: Optimierung des Audio-Detektor-Pegels.

Fehler: Der Audio-Pegel ist niedrig und der Ton ist verzerrt.

2. CH1/CH2 Det. Level Adjustment

Purpose of adjustment and fault occurring if incomplete

Purpose: Optimize the audio detection level.

Fault: The audio level is low and sound is distorted.

2. Taratura livello detettore CH1/CH2

Apparizione errore nel caso di allineamento errato

Scopo: regolazione ottimale del livello detettore dell'audio.

Errori: livello audio inferiore e tono disturbato.

Meßgeräte/Hilfsmittel Test Equipment/Jigs Apparecchi di misurazione/ mezzi ausiliarii	Meßpunkte Connection Points Punti di misurazione	Betriebszustand d. Videorec. VTR State Impostazioni sul video-registratore	Abgleichpunkt Adjustment Point Punto di taratura
Oszilloskop Klirrgradmesser Oscilloscope Distortion meter Oscilloscopio Misuratore di distorsione	TP 1802 (CH2 DET LEVEL) TP 1805 (CH1 DET LEVEL)	Eine Zweiton-Sendung empfangen. Receive a bilingual broadcast. Ricevere una trasmissione bitono.	CP 1802 (CH2 DET LEVEL) CP 1805 (CH1 DET LEVEL)

Abgleichvorgang:
Filter CP 1802 (CH2 DET LEVEL),CP 1805 (CH1 DET LEVEL) CP 1802 und CP 1805 so abgleichen,daß maximaler Pegel bei kleinstem Klirrgrad erzielt wird.

Adjustment Procedure:
CP 1802 (CH2 DET LEVEL),CP 1805 (CH1 DET LEVEL) Adjust CP 1802 and CP 1805 to maximize the output and fine adjust so the distortion is minimum.

Procedura per la taratura
Filtri CP 1802 (CH2 DET LEVEL),CP 1805 (CH1 DET LEVEL) Regolare CP 1802 e CP 1805 al livello max. di uscita e al livello minimo di distorsione.

3. Diskriminatorabgleich CP1801 (Q. SIGNAL DET.)

Fehlererscheinung bei Fehlabgleich

Zweck: Einstellung des Q-Signalträgerpegels auf den vorgeschriebenen Wert.
Fehler: Die Diskriminatorempfindlichkeit verringert sich.

3. Q. SIGNAL DETECTION Adjustment

Purpose of adjustment and fault occurring if incomplete
Purpose: Set the Q-signal carrier level to the specified value.

Fault: The detection sensitivity becomes low.

3. Taratura discriminatore CP1801 (Q. SIGNAL DET.)

Apparizione errore nel caso di allineamento errato
Scopo: regolazione del livello della portante segnali Q sul valore prescritto.
Errori: bassa sensibilita' del discriminatore.

Meßgeräte/Hilfsmittel Test Equipment/Jigs Apparecchi di misurazione/ mezzi ausiliarii	Meßpunkte Connection Points Punti di misurazione	Betriebszustand d. Videorec. VTR State Impostazioni sul video-registratore	Abgleichpunkt Adjustment Point Punto di taratura
Oszilloskop Oscilloscope Oscilloscopio	TP1804	Eine Zweiton-Sendung empfangen. Receive a bilingual broadcast. Ricevere una trasmissione bitono.	CP1801 (Q. SIGNAL DET.)

Abgleichvorgang:
Filter CP1801 (Q. SIGNAL DET.)
AC-Pegel an TP1804 auf Maximum einstellen.

Adjustment Procedure:
CP1801 (Q. SIGNAL DET.)
AC Level at TP1804: Maximize

Procedura per la taratura
Filtro CP1801 (Q. SIGNAL DET.)
Sintonizzare CP1801 in modo che il segnalamento AC raggiunga la massima ampiezza.

4. Abgleich Zweiton-LED

Fehlererscheinung bei Fehlabgleich

Zweck: Einstellung des Zweitonkennungssignals 274,1Hz auf den vorgeschriebenen Wert.
Fehler: Die Zweitonempfindlichkeit ist ungenügend oder Fehlfunktionen terten auf.

4. Dual LED Adjustment

Purpose of adjustment and fault occurring if incomplete
Purpose: Set the sound multiplex Q-discrimination signal 274.1Hz to the specified value.
Fault: The sound multiplex sensitivity is defective or a malfunction occurs.

4. Taratura LED bitono

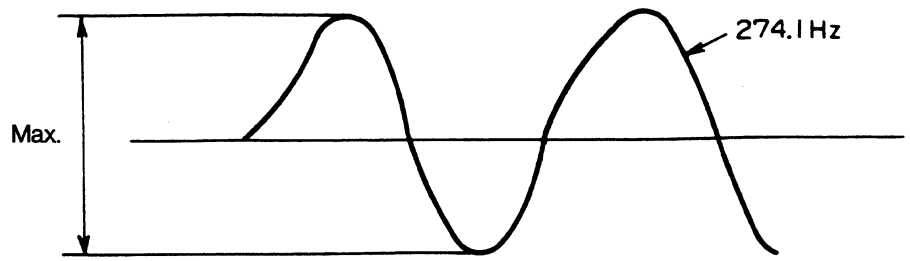
Apparizione errore nel caso di allineamento errato
Scopo: regolazione del segnale di riconoscimento bitono 274,1Hz sul valore prescritto.
Errori: la sensibilita' del discriminatore e' bassa e si vengono a creare funzioni errate.

Meßgeräte/Hilfsmittel Test Equipment/Jigs Apparecchi di misurazione/ mezzi ausiliarii	Meßpunkte Connection Points Punti di misurazione	Betriebszustand d. Videorec. VTR State Impostazioni sul video-registratore	Abgleichpunkt Adjustment Point Punto di taratura
Oszilloskop Oscilloscope Oscilloscopio	TP1801	Eine Zweiton-Sendung empfangen. Receive a bilingual broadcast. Ricevere una trasmissione bitono.	RT1801 (BIL) (Dual LED Sensitivity) CP1803 (BIL) (Dual LED)

Abgleichvorgang:
RT1801 (BIL) und CP1803
RT1801 und CP1803 so abgleichen, daß die Zweitonkennung (274,1Hz) maximale Amplitude erreicht.

Adjustment Procedure:
RT1801 (BIL) and CP1803
Adjust RT1801 and CP1803 to maximize the sound multiplex discrimination signal (274.1 Hz) output.

Procedura per la taratura
RT1801 (BIL) e CP1803
Sintonizzare RT1801 e CP1803 in modo tale che il segnalmento bitono raggiunga la massima ampiezza (274,1 Hz).



5. Abgleich Stereo-LED	5. Stereo LED Adjustment	5. Sintonia Stereo-LED
Fehlererscheinung bei Fehlabgleich Zweck: Einstellung der Stereokennungs-empfindlichkeit auf den vorgeschriebenen Wert. Fehler: Die Stereokennungsempfindlichkeit ist ungenügend und Fehlfunktionen treten auf.	Purpose of adjustment and fault occurring if incomplete Purpose: Set the stereo discrimination sensitivity to the specified value. Fault: The stereo discrimination sensitivity becomes defective and a malfunction occurs.	Apparizione errore nel caso di allineamento errato Scopo: regolazione del contrassegno stereo sul valore prescritto. Errori: la sensibilita' del discriminatore stereo e' bassa e si hanno funzioni errate.

Meßgeräte/Hilfsmittel Test Equipment/Jigs Apparecchi di misurazione/ mezzi ausiliarii	Meßpunkte Connection Points Punti di misurazione	Betriebszustand d. Videorec. VTR State Impostazioni sul video-registratore	Abgleichpunkt Adjustment Point Punto di taratura
Oszilloskop Oscilloscope Oscilloscopio	TP1801	Eine Stereo-Sendung empfangen. Receive a stereo broadcast Ricevere una trasmissione in stereo.	RT1802 (ST) (Stereo LED Sensitivity)

Abgleichvorgang: RT1802 (ST) RT1802 so abgleichen,daß die Stereo-Kennung (117,5 Hz) maximale Amplitude erreicht. Adjustment Procedure: RT1802 (ST) Adjust RT1802 to maximize the stereo discrimination signal (117.5 Hz) output.	Procedura per la taratura RT1802 (ST) Sintonizzare RT1802 in modo che il segnalmento stereo raggiunga la massima ampiezza (117,5 Hz).

6. Abgleich RCH-Pegel

Fehlererscheinung bei Fehlabgleich

Zweck: Einstellung des RCH-Signals auf den vorgeschriebenen Wert.

Fehler: Zwischen linkem und rechten Kanal tritt eine Pegeldifferenz auf.

6. RCH Level Adjustment

Purpose of adjustment and fault occurring if incomplete

Purpose: Set the RCH signal to the specified value during stereo reception.

Fault: A level difference occurs between L and R channels.

6. Sintonia del livello RCH

Apparizione errore nel caso di allineamento errato

Scopo: regolazione del segnale RCH sul valore prescritto durante la ricezione stereo.

Errori: tra il canale L (sinistro) e quello R (destro) si crea una differenza di livello.

Meßgeräte/Hilfsmittel Test Equipment/Jigs Apparecchi di misurazione/ mezzi ausiliarii	Meßpunkte Connection Points Punti di misurazione	Betriebszustand d. Videorec. VTR State Impostazioni sul video- registratore	Abgleichpunkt Adjustment Point Punto di taratura
Oszilloskop Multimeter Stereosignalgenerator	TP1808 (RCH LEVEL) TP1808 HF-Eingang	Stereo-Signal empfangen (400Hz / 30KHz Hub)	RT1803 (RCH) (RCH Level)
Oscilloscope VTVM Stereo Signal Generator	TP1808 TP1808 RF input	Receive stereo signals (400Hz / 30kHz dev.)	
Oscilloscopio Multimetro Generatore di segnale stereo	TP1808 TP1808 Ingresso AF	I segnali stereo ricevono (400Hz / 30KHz corsa)	

Abgleichvorgang:
RT1803 (RCH LEVEL)

1. Den CH1+CH2-Wahlschalter auf der Bedienungsleiterplatte auf die Position "CH2" stellen,so daß nur das linke(CH2) Signal ausgegeben wird.

2. RT1803 so einstellen,daß ein Ausgangspegel von -9dBm +/-0.5dBm (276mV +25/-22mV) gemessen werden kann.

Adjustment Procedure:
RT1803 (RCH LEVEL)

1. Set the CH1+CH2 select switch on the operation circuit board to "CH2" so only the Lch (CH2) signal is output.

2. Adjust RT1803 so the output level is -9dBm +/-0.5dBm (276mV +25/-22mV).

Procedura per la taratura
RT1803 (RCH LEVEL)

1. Portare il selettore "CH1+CH2" sul circuito su pannello tasti comando in posizione "CH2" per emmettere solo il segnale del canale sinistro (CH2).

2. Regolare il potenziometro RT1803 in modo che si possa misurare un livello di uscita di -9dBm +/-0,5dBm (276mV +25/-22mV).

7. Abgleich Kanaltrennung LCH

Fehlererscheinung bei Fehlabgleich

Zweck: Optimale Stereokanaltrennung.

Fehler: Ungenügende Stereokanaltrennung (Übersprechen von Signalkomponenten aus Kanal R in Kanal L)

7. Lch Separation Adjustment

Purpose of adjustment and fault occurring if incomplete

Purpose: Optimize the separation of stereo sound.

Fault: The separation of stereo sound becomes defective. (Leak of signal components from R to L channel)

7. Sintonia del separazione di canale LCH

Apparizione errore nel caso di allineamento errato

Scopo: separazione canale ottimale durante la riproduzione stereo.

Errori: cattiva separazione canale stereo; diafonia di segnali dal canale R (destro) al canale L (sinistro).

Meßgeräte/Hilfsmittel Test Equipment/Jigs Apparecchi di misurazione/ mezzi ausiliarii	Meßpunkte Connection Points Punti di misurazione	Betriebszustand d. Videorec. VTR State Impostazioni sul video- registratore	Abgleichpunkt Adjustment Point Punto di taratura
Oszilloskop Oscilloscope Oscilloscopio	TP1807	Eine Stereo-Sendung empfangen Receive a stereo broadcast Ricevere una trasmissione in stereo	RT1804 (SEP) (LCH Separation)

Abgleichvorgang:
RT1804 (SEP)
1. Die Modulation für den linken Kanal abschalten.

2. RT1804 so einstellen,daß das Kanal-Rechts-Signal so gering wie möglich wird !

Adjustment Procedure:
RT1804 (SEP)
1. Switch off the modulation of L-channel.

2. Adjust RT1804 to minimize the R-ch signal output.

Procedura per la taratura
RT1804 (SEP)
1. Disinserire la modulazione del canale sinistro.

2. Sintonizzare RT1804 al livello minimo di uscita segnale del canale destro.

5. F.S.-TUNING-ABGLEICH

1) Abgleich der 15,6KHz-Freilauf-frequenz

Fehlererscheinung bei Fehlabgleich

Zweck: Einstellung der Freilauf-Frequenz,die dem SYNC-Detektor-Kreis in der Kanalwahlschaltung zugeführt wird, auf 15,6KHz +/- 0,1KHZ.

Fehler: Der SYNC-Signaldetektor arbeitet nicht und eine korrekte Abstimmung wird nicht durchgeführt.

5. F.S TUNING CIRCUIT ADJUSTMENT

1) 15.6KHz Free-Run Adjustment

Purpose of adjustment and fault occurring if incomplete

Purpose: To set the free-run frequency applied to the SYNC detection circuit in the channel select circuit to 15.6KHz +/- 0.1KHz.

Fault: The sync signal detection does not work and correct tuning can not performed.

5. TARATURA TUNING FS

1) Regolazione della frequenza 15,6 kHz

Apparizione di errore con allineamento errato

Scopo: Registrare la frequenza su 15,6kHz +/- 0,1kHz che pilota il circuito SYNC-detector nel modulo di selezione canale.

Errore: Il rivelatore del segnale di sincronismo non funziona e la selezione del canale non e' effettuata correttamente.

Meßgeräte/Hilfsmittel Test Equipment/Jigs Apparecchi di misurazione/ mezzi ausiliarii	Meßpunkte Connection Points Punti di misurazione	Betriebszustand d. Videorec. VTR State Impostazioni sul video-registratore	Abgleichpunkt Adjustment point Punto di taratura
Frequenzzähler	TP802 (K811)	Stop-Betrieb	RT801 (FH ADJUST) (15.6KHz Free-Run)
Frequency counter	TP801 (GND) (K812)	Stop mode	
Contatore di frequenza		Funzionamento in modo Stop	

Abgleichvorgang
Einstellung der Frequenz auf f=15,6KHz +/- 0,1KHz

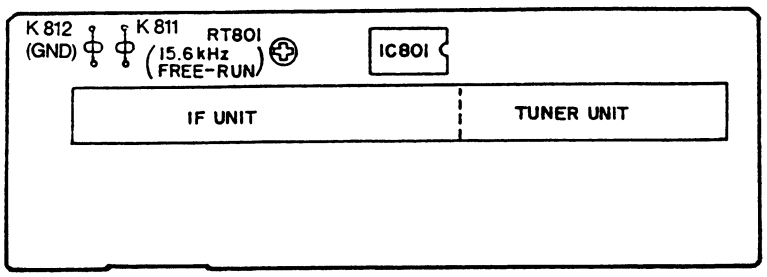
Adjustment Procedure
Set the adjustment frequency to f=15.6KHz +/- 0.1KHz.

Regolazione della frequenza su f=15.6KHz +/- 0.1KHz.

Lage der Abgleichelemente

Adjustment Parts Location

Ubicazione degli elementi di allineamento



Ltpl. F.S. TUNING
(Bauteileseite)

F.S. TUNING P.C.B
(components side)

Circuito stampato F.S. TUNING
(lato di applicazione)

6. ZEICHENGENERATOR-ABGLEICH

1. Abgleich Zeichenposition

Fehlererscheinung bei Fehlabgleich

Zweck: Festlegung der Positionen der auf dem Bildschirm dargestellten Zeichen.
Fehler: Die Zeichenanzeigeposition ist verschoben.

6. CHARACTER GENERATOR CIRCUIT ADJUSTMENT

1. Character Position Adjustment

Purpose of adjustment and fault occurring if incomplete

Purpose: To set the positions of characters displayed on the screen.
Fault: The character display position is drifted.

6. TARATURA DEL GENERATORE DI CARATTERI

1. Taratura della posizione del carattere

Apparizione di errore con allineamento errato

Scopo: Fissare le posizioni dei caratteri visualizzati.

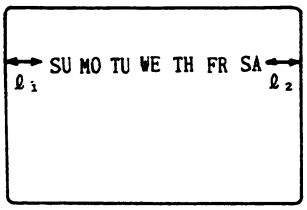
Errore: La posizione dei caratteri indicati e' spostata.

Meßgeräte/Hilfsmittel Test Equipment/Jigs Apparecchi di misurazione/ mezzi ausiliarii	Meßpunkte Connection Points Punti di misurazione	Betriebszustand d. Videorec. VTR State Impostazioni sul video-registratore	Abgleichpunkt Adjustment point Punto di taratura
Farbbalkengenerator Monitor-Fernsehgerät Colour bar generator Monitor TV Generatore di barre a colori Monitore TV	Video-Eingang mit Fernsehgerät überprüfen Video input Check with monitor TV Ingresso video Controllare con il televisore	Farbbalkensignal empfangen (Schalterstellung LINE IN) Betriebsart OSD Receive colour bar signal (switch position LINE IN) OSD mode (ON SCREEN DISPLAY) Ricezione del segnale a strisce di colore (posizione interruttore LINE IN) Modo di esercizio OSD	RT1401 (H. ADJUST) (Character Position)

Abgleichvorgang
1) Mit Hilfe der Fernbedienung das OSD-Menü aufrufen und den Kalender auswählen.
2) RT1401: Die Strecken l1 von der Bildschirmecke zu S von SU (Sunday) und l2 von der Ecke nach A von SA (Saturday) gleich lang einstellen.

Adjustment Procedure
1) Operate the remote control to display the OSD menu and select the calendar.
2) RT1401: Equalize interval l1 from the screen edge to S of SU (Sunday) and l2 from the edge to A of SA (Saturday).

Procedura per la taratura
1) Con il telecomando, si richiama il menu OSD e si seleziona il calendario.
2) RT1401: I tratti l1 dall'angolo dello schermo alla S di SU (sunday) e l2 dall'angolo alla A di SA (saturday) devono essere regolate su lunghezza uguale.



$l_1 = l_2$

7. DIGITALVERARBEITUNG
1. Abgleich AGC-Pegel

Fehlererscheinung bei Fehlabgleich

Zweck: Angleichung der Helligkeit von Haupt- und Hilfsbildschirm.

Fehler: Die Helligkeiten von Haupt- und Hilfsbildschirm unterscheiden sich.

7. DIGITAL PROCESS CIRCUIT
1. AGC Level Adjustment

Purpose of adjustment and fault occurring if incomplete

Purpose: Match the brightnesses of the main and sub screens in P in P mode.

Fault: The brightnesses of the main and sub screens are different.

7. ELABORAZIONE DIGITALE
1. Taratura del livello AGC

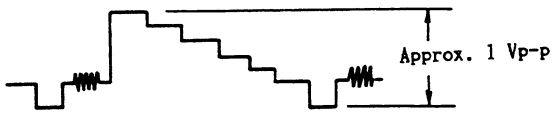
Apparizione di errore con allineamento errato

Scopo: Equalizzazione della luminosita' dello schermo principale e ausiliario.

Errore: La luminosita' dello schermo principale e' diversa da quello schermo ausiliare.

Meßgeräte/Hilfsmittel Test Equipment/Jigs Apparecchi di misurazione/ mezzi ausiliarii	Meßpunkte Connection Points Punti di misurazione	Betriebszustand d. Videorec. VTR State Impostazioni sul video-registratore	Abgleichpunkt Adjustment point Punto di taratura
Farbbalkengenerator Oszilloskop	Video-Eingang TP1001	Betriebsart P in P (im E-E-Betrieb)	RT1011 (AGC LEVEL)
Colour bar generator Oscilloscope	Video input TP1001	P in P mode (in E-E mode)	
Generatore di barre a colori Oscilloscopio	Ingresso video TP1001	Funzionamento immagine nell'immagine (in esercizio E-E)	

Abgleichvorgang	Adjustment Procedure	Procedura per la taratura
Einstellung der Amplitude auf etwa 1Vss	Set the amplitude to approx. 1Vp-p	Regolazione dell'amplitudine su circa 1Vp-p.



2. Abgleich Sync-Signalposition

Fehlererscheinung bei Fehlabgleich

Zweck: Einstellung der Referenzposition für das Speicherschreiben.
Einstellung der Referenzposition des BGP-Impulses.

Fehler: Das Zentrum des Hilfsbildschirms ist in den Betriebsarten V.MEMO und P in P verschoben.
Die Farbwiedergabe ist unstabil.

2. Sync Signal Position Adjustment

Purpose of adjustment and fault occurring if incomplete

Purpose: Set the reference position for writing to the memory.
Set the reference position of the BGP (burst gate pulse).

Fault: The centre of the sub screen is drifted in V.MEMO and P in P modes.
Colouring is unstable.

2. Taratura della posizione del segnale Sync.

Apparizione di errore con allineamento errato

Scopo: Regolazione della posizione di riferimento per la scrittura della memoria.
Regolazione della posizione di riferimento dell'impulso BGP.

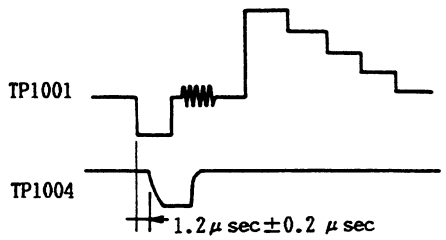
Errore: Il centro dello schermo ausiliario e' spostato nei modi di esercizio V.MEMO (immagine memorizzata) e P in P (immagine nel'immagine).
La riproduzione a colori e' instabile.

Meßgeräte/Hilfsmittel Test Equipment/Jigs Apparecchi di misurazione/ mezzi ausiliarii	Meßpunkte Connection Points Punti di misurazione	Betriebszustand d. Videorec. VTR State Impostazioni sul video-registratore	Abgleichpunkt Adjustment point Punto di taratura
Farbbalkengenerator Oszilloskop	Video-Eingang CH1: TP1001 CH2: TP1004	Betriebsart P in P (im E-E-Betrieb)	RT1002 (SYNC POSITION)
Colour bar generator Oscilloscope	Video input CH1: TP1001 CH2: TP1004	P in P mode (in E-E mode)	
Generatore di barre a colori Oscilloscopio	Ingresso video TP1001 TP1004	Funzionamento immagine nell'immagine (in esercizio E-E)	

Abgleichvorgang
Einstellung des Sync-Signals auf die Position 1.2us +/-0.2us .

Adjustment Procedure
Set the sync signal to the position 1.2usec +/-0.2usec.

Procedura per la taratura
Regolazione del segnale SYNC sulla posizione 1.2us +/- 0.2us.



3. Abgleich 4.43MHz

Fehlererscheinung bei Fehlabgleich

Zweck: Einstellung der 4.43MHz-Freilauffrequenz.

Fehler: Unstabile Farbwiedergabe oder keine Farbe in den Betriebsarten Multi-Bild und Bild-in-Bild.

3. 4.43MHz Adjustment

Purpose of adjustment and fault occurring if incomplete

Purpose: Set the 4.43MHz free-running frequency.

Fault: Colouring is unstable or the picture has no colour in the multi-picture and P in P modes.

3. Taratura 4.43MHz

Apparizione di errore con allineamento errato

Scopo: Regolazione della frequenza 4.43MHz di scorrimento libero.

Errore: Riproduzione instabile a colori o senza colore nei modi di esercizio multiimmagine e immagine nell'immagine.

Meßgeräte/Hilfsmittel Test Equipment/Jigs Apparecchi di misurazione/ mezzi ausiliarii	Meßpunkte Connection Points Punti di misurazione	Betriebszustand d. Videorec. VTR State Impostazioni sul video-registratore	Abgleichpunkt Adjustment point Punto di taratura
Farbbalkengenerator Frequenzzähler	Video-Eingang TP1003 (MULTI)	Betriebsart Multi-Bild (im E-E-Betrieb)	CT1001 (MULTI 4.43MHz) CT1002 (P IN P 4.43MHz)
	TP1005 (P IN P)	Bild-in-Bild(im E-E-Betrieb)	
Colour bar generator Frequency counter	Video input TP1003 (MULTI)	Multi-picture (in EE mode)	
	TP1005 (P IN P)	P in P mode (in EE mode)	
Generatore di barre a colori Frequenzometro	Ingresso video TP1003 (MULTI)	Modo di esercizio multi-immagine (in esercizio E-E)	
	TP1005 (P IN P)	Funzionamento immagine nell'immagine (in esercizio E-E)	

Abgleichvorgang

CT1001: Der Frequenzzähler zeigt in der Multibild-Betriebsart 4433.62 +/-0.05KHz an (TP1003).

CT1002: Der Frequenzzähler zeigt in der Bild-in-Bild-Betriebsart 4433.62 +/-0.05KHz an (TP1005).

Hinweis: TP1002 mit Masse verbinden, wenn CT1002 (TP1005) eingestellt wird.

Adjustment Procedure

CT1001: The frequency counter reads 4433.62 +/-0.05kHz in the multi-picture mode. (TP1003)

CT1002: The frequency counter reads 4433.62 +/-0.05kHZ in the P in P mode. (TP1005)

Note: Connect TP1002 to earth when adjusting CT1002 (TP1005).

Procedura per la taratura

CT1001: il contatore di frequenza indica 4433.62 +/- 0.05KHz nel modo di esercizio multiimmagine (TP1003).

CT1002: il contatore di frequenza indica 4433.62 +/- 0.05KHz nel modo di esercizio immagine nell'immagine (TP1005).

Nota: collegare a massa TP1002, quando e' regolato CT1002 (TP1005).

4. Abgleich Luminanzsignalamplitude

Fehlererscheinung bei Fehlabgleich

Zweck: Einstellung der Helligkeit des Hilfsbildschirms im Bild-in-Bild-Betrieb

Fehler: Helligkeitsabweichungen des Haupt- und Hilfsbildschirms im Bild-imBild-Betrieb.

4. Luminance Signal Amplitude Adjustment

Purpose of adjustment and fault occurring if incomplete

Purpose: Set the brightness of the sub screen in the P in P mode.

Fault: The brightnesses of the main and sub screens are different in P in P mode.

4. Taratura dell'amplitudine del segnale di luminanza

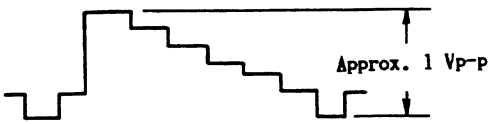
Apparizione di errore con allineamento errato

Scopo: regolazione della luminosita' dello schermo ausiliario in esercizio immagine nell'immagine.

Errore: differenze di luminosita' fra schermo principale e secondario in esercizio immagine nell'immagine.

Meßgeräte/Hilfsmittel Test Equipment/Jigs Apparecchi di misurazione/ mezzi ausiliarii	Meßpunkte Connection Points Punti di misurazione	Betriebszustand d. Videorec. VTR State Impostazioni sul video-registratore	Abgleichpunkt Adjustment point Punto di taratura
Farbbalkengenerator Oszilloskop	Video-Eingang TP1008	Betriebsart Bild-in-Bild (im E-E-Betrieb)	RT1005 (LUMA AMPLITUDE)
Colour bar generator Oscilloscope	Video input TP1008	P in P mode (in EE mode)	
Generatore di barre a colori Oscilloscopio	Ingresso video TP1008	Funzionamento immagine nell'immagine (in esercizio E-E)	

Abgleichvorgang	Adjustment Procedure	Procedura per la taratura
Einstellung der Amplitude auf etwa 1Vss	Set the amplitude to approx. 1.0Vp-p	Regolazione dell'amplitudine su circa 1Vp-p.



5. Farbton-Abgleich

Fehlererscheinung bei Fehlabgleich

Zweck: Einstellung des Farbtons im Bild-in-Bild-Betrieb.
Fehler: Farbtonabweichung im Bild-im-Bild-Betrieb.

5. Tint Adjustment

Purpose of adjustment and fault occurring if incomplete
Purpose: Set the tint in P in P mode.

Fault: The tint is different in P in P mode.

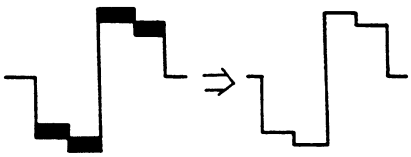
5. Taratura tono colore

Apparizione di errore con allineamento errato
Scopo: regolazione del tono colore in esercizio immagine nell'immagine.
Errore: differenze del tono colore in esercizio immagine nell'immagine

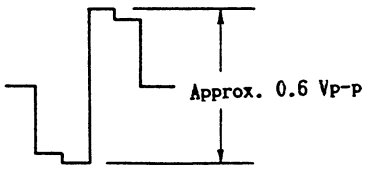
Meßgeräte/Hilfsmittel Test Equipment/Jigs Apparecchi di misurazione/ mezzi ausiliarii	Meßpunkte Connection Points Punti di misurazione	Betriebszustand d. Videorec. VTR State Impostazioni sul video-registratore	Abgleichpunkt Adjustment point Punto di taratura
Farbbalkengenerator Oszilloskop	Video-Eingang TP1007	Betriebsart Bild-in-Bild (im E-E-Betrieb)	RT1010 (TINT) RT1009 (CHROMA LEVEL)
Colour bar generator Oscilloscope	Video input TP1007	P in P mode (in EE mode)	
Generatore di barre a colori Oscilloscopio	Ingresso video TP1007	Funzionamento immagine nell'immagine (in esercizio E-E)	

Abgleichvorgang	Adjustment Procedure	Procedura per la taratura
RT1010: So einstellen,daß keine Doppelkontur der Amplitude auftritt.	RT1010: Adjust so the amplitude is not doubled.	RT1010: regolare in modo che l'amplitudine non abbia un doppio contorno.
RT1009: Einstellung der Amplitude auf etwa 0.6Vss.	RT1009: Set the amplitude to approx. 0.6Vp-p.	RT1009: regolazione dell'amplitudine su circa 0.6Vp-p.

RT1010: Adjust so the amplitude is not doubled.



RT1009: Set the amplitude to approx. 0.6 V.



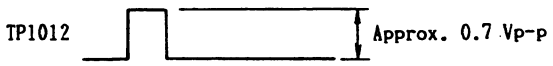
6. Abgleich Burst-Pegel	6. Burst Level Adjustment	6. Taratura del livello burst
Fehlererscheinung bei Fehlabgleich Zweck: Einstellung des Farbtons in der Betriebsart Speicherbild. Fehler: Farbtonabweichungen in der Betriebsart Speicherbild.	Purpose of adjustment and fault occurring if incomplete Purpose: Set the tint in the V.MEMD mode. Fault: The tints do not match in the V.MEMD mode.	Apparizione di errore con allineamento errato Scopo: regolazione del tono colore nel modo di esercizio immagine memorizzata. Errore: differenze del tono colore nel modo di esercizio immagine memorizzata.

Meßgeräte/Hilfsmittel Test Equipment/Jigs Apparecchi di misurazione/ mezzi ausiliarii	Meßpunkte Connection Points Punti di misurazione	Betriebszustand d. Videorec. VTR State Impostazioni sul videoregistratore	Abgleichpunkt Adjustment point Punto di taratura
Farbbalkengenerator Oszilloskop	Video-Eingang TP1012 TP1013	Betriebsart Bild-in-Bild (im E-E-Betrieb)	RT1012 (BURST ANGLE) RT1013 (BURST LEVEL)
Colour bar generator Oscilloscope	Video input TP1012 TP1013	P in P mode (in EE mode)	
Generatore di barre a colori Oscilloscopio	Ingresso video TP1012 TP1013	Funzionamento immagine nell'immagine (in esercizio E-E)	

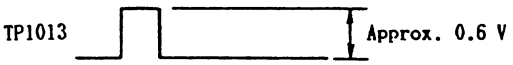
Abgleichvorgang	Adjustment Procedure	Procedura per la taratura
RT1012: Einstellung der Amplitude auf etwa 0.7Vss. RT1013: Einstellung der Amplitude auf etwa 0.6Vss.	RT1012: Set the amplitude to approx. 0.7Vp-p. RT1013: Set the amplitude to approx. 0.6Vp-p.	RT1012: regolazione dell'amplitudine su circa 0.7Vp-p. RT1013: regolazione dell'amplitudine su circa 0.6Vp-p.

Adjustment Procedure

RT1012: Set the amplitude to approx. 0.7 Vp-p.



RT1013: Set the amplitude to approx. 0.6 Vp-p.



7. Abgleich Weiß-Balance

Fehlererscheinung bei Fehlabgleich

Zweck: Korrekte Einstellung der Farbtönungen von Haupt- und Hilfsbildschirm im Bild-in-Bild-Betrieb.

Fehler: Unnormale Farbtönung des Hilfsbildschirms im Bild-in-Bild-Betrieb.

7. White Balance Adjustment

Purpose of adjustment and fault occurring if incomplete

Purpose: Set the tints of the main and sub screens correctly in the P in P mode.

Fault: The tint of the sub screen is abnormal in the P in P mode.

7. Taratura dell'equilibrio bianco

Apparizione di errore con allineamento errato

Scopo: regolazione corretta dei toni colore di schermo principale e ausiliario in esercizio immagine nell'immagine.

Errore: toni colore anormali dello schermo ausiliario in esercizio immagine nell'immagine

Meßgeräte/Hilfsmittel Test Equipment/Jigs Apparecchi di misurazione/ mezzi ausiliarii	Meßpunkte Connection Points Punti di misurazione	Betriebszustand d. Videorec. VTR State Impostazioni sul video-registratore	Abgleichpunkt Adjustment point Punto di taratura
Farbbalkengenerator	Video-Eingang		RT1006 (WHITE BALANCE)
Vektorskop (Methode 1)	CH1: TP1011 CH2: TP1014	Betriebsart Speicherbild	RT1007 (WHITE BALANCE)
Oszilloskop (Methode 2)	Video-Ausgang	Bild-in-Bild(im E-E-Betrieb)	
Colour bar generator	Video input		
Vectorscope (Method 1)	CH1: TP1011 CH2: TP1014	V.MEMO mode	
Oscilloscope (Method 2)	Video output	P in P mode (in EE mode)	
Generatore di barre a colori	Ingresso video		
Vettorscopio (Metodo 1)	CH1: TP1011 CH2: TP1014	Modo di esercizio immagine memorizzata	
Oscilloscopio (Metodo 2)	Uscita video	Funzionamento immagine nell'immagine (in esercizio E-E)	

Abgleichvorgang

Methode 1: Benutzung eines Vektorskops RT1006/RT1007: Angleichung der Zentren der Haupt- und Hilfsbildschirmvektoren.

Methode 2: Benutzung eines Oszilloskops TP1011: Minimalamplitude des Chroma-signals; Oszillogramm siehe unten.

Adjustment Procedure

Method 1: When using Vectorscope RT1006/RT1007: Match the centres of the main and sub screen vectors.

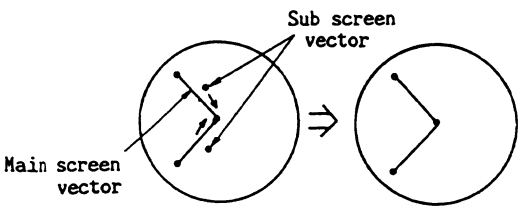
Method 2: When using Oscilloscope TP1011: The amplitude of the chroma signal is minimum and the waveform is as shown below.

Procedura per la taratura

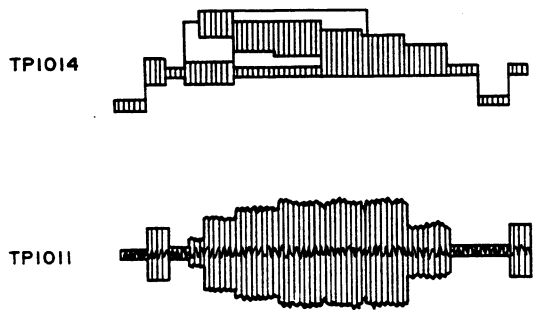
Metodo 1: uso del vettoroscopio RT1006/RT1007: equalizzazione dei centri dello schermo principale e ausiliario.

Metodo 2: uso dell'oscilloscopio TP1011: amplitudine minima del segnale croma; oscillogramma: vedi in basso

Methode 1/Method 1/Metodo 1



Methode 2/Method 2/Metodo 2



8. Abgleich AGC-Pegel (Feinabgleich)

Fehlererscheinung bei Fehlabgleich

Zweck: Angleichung der Helligkeit des Hauptbildschirms in der Betriebsart Bild-in-Bild REV. mit der des Bild-in-Bild-Betriebs.

Fehler: Die Helligkeit des Hauptbildschirms ändert sich beim Wechsel von Betriebsart Bild-in-Bild nach Bild-in-Bild REV.

8. AGC Level Adjustment (Precise Adjustment)

Purpose of adjustment and fault occurring if incomplete

Purpose: Match the brightnesses of the main screen in the P in P and P in P REV. modes.

Fault: The brightness of the main screen changes in the P in P and P in P REV. modes.

8. Sintonia del livello AGC (Regolazione fine)

Apparizione di errore con allineamento errato

Scopo: equalizzazione della luminosita' dello schermo principale nel modo di esercizio immagine nell'immagine REV. con quella del modo di esercizio immagine nell'immagine.

Errore: la luminosita' dello schermo principale cambia commutando dal modo di esercizio immagine nell' immagine nel modo di esercizio immagine nell'immagine REV.

Meßgeräte/Hilfsmittel Test Equipment/Jigs Apparecchi di misurazione/ mezzi ausiliarii	Meßpunkte Connection Points Punti di misurazione	Betriebszustand d. Videorec. VTR State Impostazioni sul video-registratore	Abgleichpunkt Adjustment point Punto di taratura
Farbbalkengenerator	Video-Eingang	Betriebsart Bild-in-Bild (im E-E-Betrieb)	
Oszilloskop	TP1014	Betriebsart Bild-in-Bild Revers (im E-E-Betrieb)	RT1011(AGC LEVEL)
Colour bar generator	Video input	P in P mode (in EE mode)	
Oscilloscope	TP1014	REV. P in P mode (in EE mode)	
Generatore di barre a colori	Ingresso video	Funzionamento immagine nell'immagine (in esercizio E-E)	
Oscilloscopio	TP1014	Modo di esercizio immagine nell'immagine invertito (revers) (in esercizio E-E)	

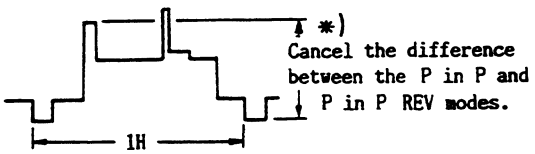
Abgleichvorgang
Angleichung der Helligkeit des Hauptbildschirms in der Betriebsart Bild-in-Bild Revers mit der des Bild-in-Bild-Betriebs. (Beliebiger Pegel des Hilfsbildschirms)

Adjustment Procedure
Match the main screen level in the P in P REV. mode with that in the P in P mode.
(any level of the sub screen)

Procedura per la taratura
Equalizzazione della luminosita' dello schermo principale nel modo di esercizio immagine nell'immagine revers con quella dell'esercizio immagine nell'immagine.
(qualsiasi livello dello schermo ausiliario)

*)Den Unterschied zwischen den Betriebsarten Bild-in-Bild und Bild-in-Bild Revers beseitigen.

*)Eliminare la differenza fra i modi di esercizio immagine nell'immagine e immagine nell'immagine revers.



9. Abgleich Hilfsbildschirmhelligkeit

Fehlererscheinung bei Fehlabgleich

Zweck: Einstellung der Helligkeit des Hilfsbildschirms.

Fehler: Unterschiedliche Helligkeit von Haupt- und Hilfsbildschirm.

9. Sub Screen Brightness Adjustment

Purpose of adjustment and fault occurring if incomplete

Purpose: To adjust the brightness of the sub screen.

Fault: The brightnesses of the main and sub screens are different.

9. Taratura della luminosita' dello schermo ausiliario

Apparizione di errore con allineamento errato

Scopo: regolazione della luminosita' dello schermo ausiliario.

Errore: luminosita' diversa dello schermo principale e ausiliario

Meßgeräte/Hilfsmittel Test Equipment/Jigs Apparecchi di misurazione/ mezzi ausiliarii	Meßpunkte Connection Points Punti di misurazione	Betriebszustand d. Videorec. VTR State Impostazioni sul video-registratore	Abgleichpunkt Adjustment point Punto di taratura
Farbbalkengenerator Oszilloskop	Video-Eingang TP1014	Betriebsart Bild-in-Bild (im E-E-Betrieb)	RT1005 (SUB SCREEN BRIGHTNESS)
Colour bar generator Oscilloscope	Video input TP1014	P in P mode (in EE mode)	
Generatore di barre a colori Oscilloscopio	Ingresso video TP1014	Funzionamento immagine nell'immagine (in esercizio E-E	

Abgleichvorgang
Luminanzpegelangleichung von Haupt- und Hilfsbildschirm.
Weiß-Pegel: a=100 +/-5 IRE (714mV+/-36mV)

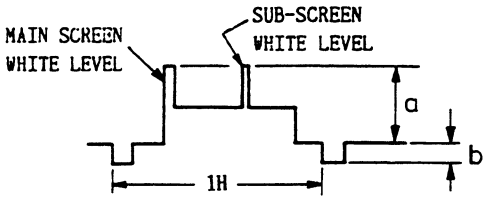
b=43 IRE (307mV)

Adjustment Procedure
Match the luminance levels of the main and sub screens.
White level: a=100 +/- 5 IRE (714mV+/-36mV)

b=43 IRE (307mV)

Procedura per la taratura
Equalizzazione del livello di luminanza dello schermo principale e ausiliario.
Livello bianco: a=100 +/-5 IRE (714mV+/-36mV)

b=43 IRE (307mV)



10. Angleichung des Farbtons von Haupt- und Hilfsbildschirm (1) (Benutzung eines Vektorskops)

Fehlererscheinung bei Fehlabgleich

Zweck: Farbtonangleichung von Haupt- und Hilfsbildschirm im Bild-in-Bild-Betrieb.

Fehler: Unterschiedliche Farbtönung von Haupt- und Hilfsbildschirm.

10. Main/Sub Screen Tint Matching Adjustment (1) (When using Vectorscope)

Purpose of adjustment and fault occurring if incomplete

Purpose: Match the tints of the main and sub screens in the P in P mode.

Fault: The tints of the main and sub screens do not match.

10. Equalizzazione del tono colore dello schermo principale e ausiliario (1) (uso del vettoroscopio)

Apparizione di errore con allineamento errato

Scopo: equalizzazione dello schermo principale e ausiliario in esercizio immagine nell'immagine.

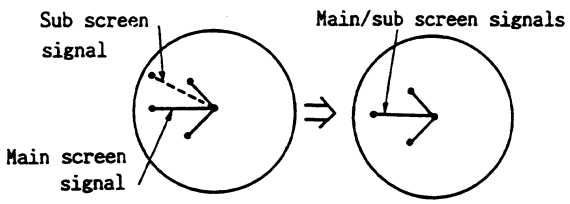
Errore: toni di colore diversi fra schermo principale e ausiliario.

Meßgeräte/Hilfsmittel Test Equipment/Jigs Apparecchi di misurazione/ mezzi ausiliarii	Meßpunkte Connection Points Punti di misurazione	Betriebszustand d. Videorec. VTR State Impostazioni sul video-registratore	Abgleichpunkt Adjustment point Punto di taratura
Farbbalkengenerator Vektorskop	Video-Eingang Video-Ausgang	Betriebsart Bild-in-Bild (im E-E-Betrieb)	RT1003 (TINT) RT1009 (CHROMA LEVEL)
Colour bar generator Vectorscope	Video input Video output	P in P mode (in EE mode)	
Generatore di barre a colori Vettorscopio	Ingresso video Uscita video	Funzionamento immagine nell'immagine (in esercizio E-E)	

Abgleichvorgang
RT1003/RT1009: Angleichung der Helligkeitspunkte des Hauptbildschirmvektors mit denen des Hilfsbildschirms (wie in der untenstehenden Zeichnung dargestellt).

Adjustment Procedure
RT1003/RT1009: Match the bright points of the main screen vector with those of the sub screen (as in the figure below)

Procedura per la taratura
RT1003/RT1009: equalizzazione dei punti di luminosita' del vettore dello schermo principale con quelli dello schermo ausiliario (come visibile nel disegno in basso).



11. Angleichung des Farbtons von Haupt- und Hilfsbildschirm (2) (Benutzung eines Vektorskops)

11. Main/Sub Screen Tint Matching Adjustment (2) (When using Vectorscope)

11. Equalizzazione del tono colore dello schermo principale e ausiliario (2) (uso del vettoroscopio)

Fehlererscheinung bei Fehlabgleich

Zweck: Einstellung des roten Farbtons.

Fehler: Unterschiedliche Farbtönung von Haupt- und Hilfsbildschirm.

Purpose of adjustment and fault occurring if incomplete

Purpose: Adjust the red tint.

Fault: The tint of the main and sub screens do not match.

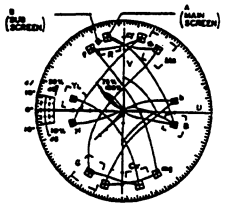
Apparizione di errore con allineamento errato

Scopo: regolazione del tono colore rosso.

Errore: diversa tonalita' di colore dello schermo principale e ausiliario.

Meßgeräte/Hilfsmittel Test Equipment/Jigs Apparecchi di misurazione/ mezzi ausiliarii	Meßpunkte Connection Points Punti di misurazione	Betriebszustand d. Videorec. VTR State Impostazioni sul video-registratore	Abgleichpunkt Adjustment point Punto di taratura
Farbbalkengenerator Vektorskop	Video-Eingang Video-Ausgang	Betriebsart Bild-in-Bild (im E-E-Betrieb)	RT1008 (TINT)
Colour bar generator Vectorscope	Video input Video output	P in P mode (in EE mode)	
Generatore di barre a colori Vettorscopio	Ingresso video Uscita video	Funzionamento immagine nell'immagine (in esercizio E-E)	

Abgleichvorgang	Adjustment Procedure	Procedura per la taratura
Angleichung des Helligkeitspunktes des Hauptbildschirms mit dem des Hilfsbildschirms (nur in vertikaler Richtung).	Match the bright point of the main screen with that of the sub screen (only in the vertical direction).	Equalizzazione del punto di luminosita' dello schermo principale con quello dello schermo ausiliario (solo in direzione verticale).



10./11. Angleichung des Farbtons von Haupt- und Hilfsbildschirm (1) (2) (Benutzung eines Fernsehmonitors)

10./11. Main/Sub Screen Tint Matching Adjustment (1) (2) (When using Monitor TV)

10./11. Equalizzazione del tono colore dello schermo principale e ausiliario (1) (2) (uso del monitore)

Meßgeräte/Hilfsmittel Test Equipment/Jigs Apparecchi di misurazione/ mezzi ausiliarii	Meßpunkte Connection Points Punti di misurazione	Betriebszustand d. Videorec. VTR State Impostazioni sul video-registratore	Abgleichpunkt Adjustment point Punto di taratura
Farbbalkengenerator Fernsehmonitor	Video-Eingang Mit Fernsehmonitor prüfen	Betriebsart Bild-in-Bild (im E-E-Betrieb)	RT1003 (TINT) RT1008 (TINT)
Colour bar generator Monitor TV	Video input Check with Monitor TV	P in P mode (in EE mode)	RT1009 (CHROMA LEVEL)
Generatore di barre a colori Monitore TV	Ingresso video Controllare con il monitore	Funzionamento immagine nell'immagine (in esercizio E-E)	

Abgleichvorgang	Adjustment Procedure	Procedura per la taratura
So einstellen,daß der Farbton von Haupt- und Hilfsbildschirm gleich sind.	Adjust so that the tints of the main and sub screens are the same.	Regolare in modo che il tono colore sia uguale per lo schermo principale e l'ausiliario.

12. Abgleich Burst-Signal

Fehlererscheinung bei Fehlabgleich

Zweck: Einstellung der Phase und der Amplitude des Burst-Signals.

Fehler: Farbtönung und Farbsättigung der Bilder unterscheiden sich im E-E- und Bildspeicherbetrieb.

12. Burst Signal Adjustment

Purpose of adjustment and fault occurring if incomplete

Purpose: Set the angle and amplitude level of the burst signal.

Fault: The tints and colour saturations of the pictures are different in the EE and V.MEMO modes.

12. Taratura segnale burst

Apparizione di errore con allineamento errato

Scopo: regolazione della fase e amplitudine del segnale burst.

Errore: tono colore e saturazione delle immagini differiscono in esercizio E-E e memorizzazione immagine.

Meßgeräte/Hilfsmittel Test Equipment/Jigs Apparecchi di misurazione/ mezzi ausiliarii	Meßpunkte Connection Points Punti di misurazione	Betriebszustand d. Videorec. VTR State Impostazioni sul video-registratore	Abgleichpunkt Adjustment point Punto di taratura
Farbbalkengenerator	Video-Eingang	Betriebsart Speicherbild	RT1012 (BURST ANGLE)
Vektorskop (Methode 1)	Video-Ausgang	Betriebsart Speicherbild (im E-E-Betrieb)	RT1013 (BURST LEVEL)
Fernsehmonitor (Methode 2)	Mit Fernsehmonitor prüfen	E-E-Betrieb <--> Speicher-bildbetrieb	
Colour bar generator	Video input	V.MEMO mode	
Vectorscope (Method 1)	Video output	V.MEMO mode (in EE mode)	
Monitor TV (Method 2)	Check with monitor TV	EE mode <--> V.MEMO mode	
Generatore di barre a colori	Ingresso video	Modo di esercizio memorizzazione immagine	
Vettorscopio (Metodo 1)	Uscita video	Modo di esercizio memorizzazione immagine (E-E)	
Monitore TV (Metodo 2)	Controllare con il monitore	Esercizio E-E <--> esercizio memorizzazione immagine	

Abgleichvorgang

Methode 1 (Benutzung eines Vektorskops)

1) Amplitudeneinstellung mit Hilfe des Vektorskops durchführen, um den Helligkeitspunkt des Vektors an den vorgeschriebenen Pegel anzugleichen.
2) RT1012: die Burst-Phase auf 90 Grad einstellen.
3) RT1013: Einstellung des Burst-Pegels auf 75% .

Methode 2 (Benutzung eines Monitors)

1) Zwischen E-E-Betrieb und Speicherbildbetrieb wiederholt umschalten und den Farbton des Speicherbildes an den des E-E-Bildes angleichen.

Adjustment Procedure

Method 1 (When using Vectorscope)

1) Perform amplitude adjustment using the vectorscope to match the bright point of the vector to the specified level.
2) RT1012: Set the angle of the burst signal to 90 degrees.
3) RT1013: Set the burst level to 75% .

Method 2 (When using Monitor TV)

1) Alternate the EE mode and V.MEMO mode repeatedly and match the tint in the V.MEMO mode with that in the EE mode.

Procedura per la taratura

Metodo 1 (uso di un vettoroscopio)

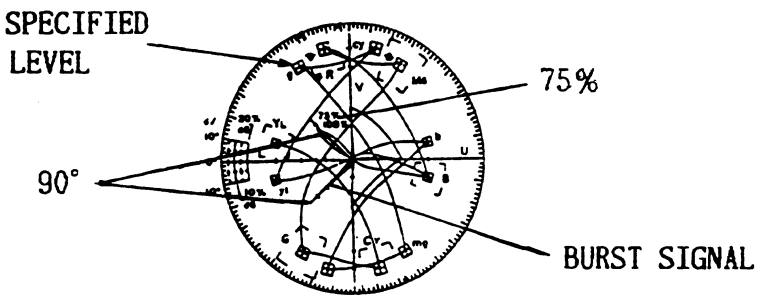
1) Regolare l'amplitudine con il vettoroscopio, per adeguare il punto di luminosita' del vettore al livello prescritto.
2) RT1012: regolare la fase burst su 90 gradi.
3) RT1013: regolare il livello burst sul 75%

Metodo 2 (uso del monitore)

1) Commutare piu' volte fra esercizio E-E e memorizzazione immagine ed equalizzare il tono colore dell'immagine memorizzata a quello dell'immagine E-E.

*) vorgeschriebener Pegel

*) livello prescritto



MECHANISCHER ABGLEICH

EINSTELLWERKZEUGE
1) Bandzug-Meßcassette
2) Abgleichband/HiFi-Abgleichband
3) Hauptmeßlehre
4) Drehmomentmesser
5) Adapter für Drehmomentmesser
6) Dummy-Wickelteller
7) Wickelteller-Höhenmeßlehre

8) Imbusschlüssel 0.9/1.5mm
9) Zugspannungsmesser

1) Mechanischer Zustandsschalter

Zweck: Korrekte Erkennung des mechanischen Betriebszustands und Verhinderung von Fehlfunktionen.

Meßgeräte/Hilfsmittel	Abgleichvorbereitungen	Betriebszustand d. Videorec.	Abgleichpunkt
Leercassette	------	Stop-Betrieb (ohne Cassette)	Mechanischer Zustandsschalter Steuerkurvenrad
Blank tape		Stop mode (without cassette)	Mechanism State Switch Mode Gear
Nastro vuoto		Funzionamento in modo stop (senza cassetta)	Interruttore di stato Disco a curve
Nastro vuoto Multimetro elettronico			

Abgleichvorgang:
1)Nachprüfen,ob der Pfeil auf der Achse des Mechanischen Zustandsschalters aufe den Pfeil der Mechanischen Betriebszustandskennziffer 1 zeigt! Ebenso nachprüfen, ob das Loch A neben dem Mechanischen Zustandsschalter und das Loch im Steuerkurvenrad aufeinander ausgerichtet sind.
2)Werden die obigen Einstellungen nicht erreicht, dann wie folgt justieren:
1. Mechanischen Zustandsschalter mit komplettem Fädelmotor entfernen.
2. Das Steuerkurvenrad bewegen,um die Position von Loch A auszurichten.
3. Das Zahnrad auf der Rückseite des Mechanischen Zustandsschalters drehen, damit der Pfeil auf der Achse des Schalters auf den Pfeil der Mechanischen Betriebszustandskennziffer 1 zeigt.
4. Mechanischen Zustandsschalter mit komplettem Fädelmotor mit den obigen Konditionen wieder einbauen.

3)Eine Leercassette laden und verschiedene Operationen durchführen, um festzustellen, ob Ein- und Ausfädeln korrekt durchgeführt werden.

MECHANISM ADJUSTMENT

SERVICING JIGS AND TOOLS
1) Back Tension Meter
2) Alignment Tape/Hi-Fi Alignment Tape
3) Master Plane
4) Torque Gauge
5) Torque Gauge Adapter
6) Dummy Reel
7) Reel Disk Height Jig

8) Hexagonal Wrench 0.9/1.5mm
9) Fan Type Tension Gauge

1) Mechanism State Switch

Purpose: To detect the mechanism state correctly and to prevent malfunctions.

Adjustment Procedure:
1)Check that the arrow on the centre shaft of the mechanism state switch points to the arrow of the mechanism mode indication number 1 . Also check that hole (A) beside the mechanism state switch and the hole in the mode gear are aligned.

2)If the above alignments are not obtained, adjust as follows:
1. Remove the mechanism state switch/loading motor assembly.
2. Move the mode gear to align the position of hole (A).
3. Turn the gear on the back of the mechanism state switch so that the arrow on the centre shaft of the switch points to the arrow of mechanism mode indication number 1
4. Reinstall the mechanism state switch/loading motor assembly in the above condition.

3)Load a blank tape and perform various operations to check that loading and unloading are performed correctly.

TARATURA MECCANICA

UTENSILI E STRUMENTI
1) Cassetta per misura della forza
2) Nastro di taratura/Nastro di taratura HiFi
3) Calibro principale
4) Dinamometro
5) Adattore per dinamometro
6) Disco di misura
7) Calibro di altezza del piatto d'avvolgimento
8) Chiave per esagoni cavi 0.9/1.5mm
9) Misuratore della forza di trazione

1) Interruttore di stato

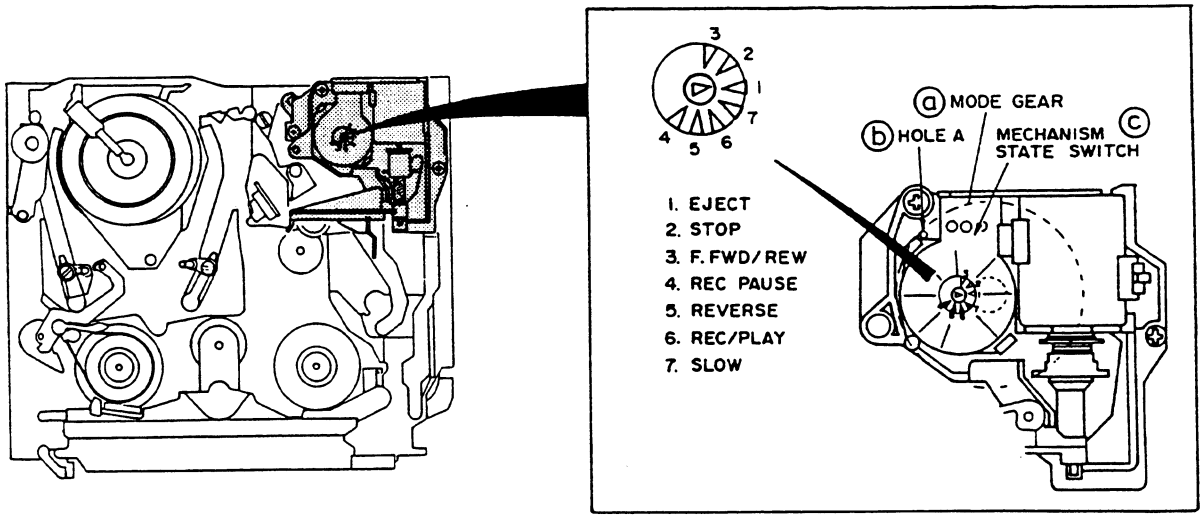
Scopo: Corretta identificazione della fuzione ed esclusione di funzioni errate.

Meßgeräte/Hilfsmittel	Abgleichvorbereitungen	Betriebszustand d. Videorec.	Abgleichpunkt
Test Equipment/Jigs	Preparation for adjust	VTR State	Adjustment Point
Apparecchi di misurazione/ mezzi ausiliarii	Operazioni preliminari	Impostazioni sul videoregistratore	Punto di taratura
Leercassette	------	Stop-Betrieb (ohne Cassette)	Mechanischer Zustandsschalter Steuerkurvenrad
Blank tape		Stop mode (without cassette)	Mechanism State Switch Mode Gear
Nastro vuoto		Funzionamento in modo stop (senza cassetta)	Interruttore di stato Disco a curve
Nastro vuoto Multimetro elettronico			

Procedura per la taratura
1)Verificare che la freccia sull'asse del commutatore meccanico di selezione sia momentanea selezione meccanica. Controllare inoltre che il foro A vicino al suddetto commutatore si trovi in corrispondenza del foro nel disco a curve.

2)Se non si ottiene questo posizionamento, aggiustare come segue:
1. Estrarre il selettore meccanico con il motore inserimento nastro.
2. Muovere il disco a curve per orientare il foro A .
3. Ruotare l'ingranaggio sulla parte posteriore del commutatore meccanico fino a metter la freccia sull'asse del commutatore in corrispondenza della freccia dell numero 1 .
4. Rimontare il commutatore meccanico ed il motore di inserimento nastro. Verificare le condizioni prescritte.

3)Inserire una videocassetta non registrata e verificare il nastro sia inserito ed espulso correttamente.



(a)Steuerkurvenrad
Disco a curve
(b)Loch A
Foro A
(c)Mechanischer Zustandsschalter
Interruttore di stato

EINSTELLUNG DES BANDLAUFSYSTEMS

Das Bandlaufsystem transportiert das Videoband vom Vorratsteller über die Videoköpfe zum Aufwickelteller. Die zum Bandlaufsystem gehörenden Teile müssen absolut sauber sein,besonders diejenigen Teile,die das Band berührt! Diese Teile müssen frei von Kratzern, Staub und öl sein.
Das Bandtransportsystem wurde justiert, bevor das Gerät die Fabrik verlassen hat. Wenn daher im Bandtransportsystem Teile ausgewechselt werden, dann reicht es in der Regel aus, nur diese ausgetauschten Teile exakt zu justieren.

1. Wickeltellerhöhenjustage

Zweck: Festlegung der korrekten Bandhöhe durch Einstellung der Wickeltellerhöhe auf den erforderlichen Wert.

TAPE TRANSPORT SYSTEM ADJUSTMENT

The transport system is the system in which tape moves from the supply reel disk, over the video head and then to the take-up reel disk. The components in the tape transport system must be perfectly clean,particularly those that come in contact with the tape.
These components should be kept clean without scratches,dust,oil,etc.
The tape transport system has been adjusted before the unit is shipped from the factory. Therefore, when parts in the transport system are replaced, the transport system is stabilized by only adjusting the new parts correctly.

1. Reel Disk Height Adjustment

Purpose: Determine correct tape height by setting cassette tape reel to the specified height.

REGOLAZIONE DEL SISTEMA DI TRASPORTO NASTRO

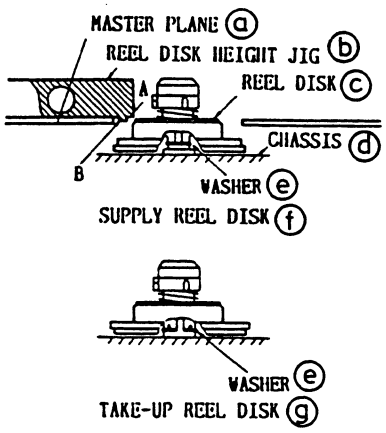
Il ruotismo trasporta il videonastro dal disco di scorta al disco di avvolgimento, attraverso le testine video.
I pezzi che appartengono al ruotismo devono essere assolutamente puliti, in particolare tutti questi pezzi che vengono in contatto con il nastro!
Questi pezzi non devono avere graffi e devono essere liberi da polvere ed olio.
Il sistema di trasporto nastro e' stato messo a punto in fabbrica. Se si cambiano parti di questo sistema, basta normalmente regolare esattamente solo queste.

1. Regolazione d'altezza del disco per nastro

Scopo: Stabilere l'esatta altezza del nastro regolando l'altezza del disco per nastro secondo il valore dato.

Meßgeräte/Hilfsmittel Test Equipment/Jigs Apparecchi di misurazione/ mezzi ausiliarii	Abgleichvorbereitungen Preparation for adjust Operazioni preliminari	Betriebszustand d. Videorec. VTR State Impostazioni sul video-registratore	Abgleichpunkt Adjustment Point Punto di taratura
Hauptmeßlehre Wickeltellerhöhenmeßlehre Master plane Reel disk height jig Calibro principale Calibro d'altezza disco	1)Cassettenlademechanismus entfernen. 2)Hauptmeßlehre einsetzen und die Wickeltellerhöhenmeßlehre darauf auflegen. 1)Remove the cassette loading mechanism. 2)Mount the master plane and place the reel disk height jig on it. 1)Smontare il meccanismo di carica cassetta. 2)Montare il calibro di misurazione principale e porvi sopra il calibro di misurazione altezza del disco per nastro.	---	Einsetzen/herausnehmen von Abstandsscheiben unter den Wickeltellern. Spacers in the supply and take-up reel disks. Montare/togliere le rosette sotto al disco per nastro.

Abgleichvorgang	Adjustment Procedure	Procedura per la taratura
1) Darauf achten,daß der Wickelteller genau zwischen die Punkte A und B der Wickelteller-Höhenmeßlehre zeigt. 2) Zeigt der Wickelteller nicht zwischen die Punkte A und B,dann die Abstandsscheiben des Wickeltellers austauschen oder deren Anzahl ändern (Dicke der Abstandsscheiben 0,25mm bzw. 0,5mm). Achtung! Wurde der Spannarm / das Spannband entfernt,muß die Spannstiftposition und der Bandzug neu eingestellt werden.	1) Make sure the reel disk is correctly positioned between points A and B on the reel disk height jig. 2) If the reel disk will not fit between points A and B, replace the spacer in the reel disk or adjust the number of spacers (0.25mm or 0.5mm thicknesses). Caution: If the tension arm / tension band have been removed,adjust the tension pole's position and tension after reassembling.	1) Fare attenzione che il disco per nastro sia esattamente tra i punti A e B del calibro d'altezza disco. 2) Se il disco per nastro non si trova esattamente tra i punti A e B, scambiare i dischetti di spessore del disco per nastro oppure cambiarne il numero (spessore delle rosette 0,25 mm o 0,5 mm). Attenzione! Se il braccio di tensione/nastro di tensione e' stato eliminato, la posizione dell'asta di tensione e il traino del nastro devono venire nuovamente regolati.



(a)Hauptmeßlehre / Calibro principale
(b)Wickeltellerhöhenmeßlehre
Calibro d'altezza disco
(c)Wickelteller / Disco per nastro
(d)Chassis / Chassis
(e)Unterlegscheibe
Rondella distanziatrice
(f)Vorratsteller / Disco di svolgimento
(g)Aufwickelteller
Disco di avvolgimento nastro

2. Bandzug-/Spannstiftpositionseinstellung

Zweck: Stabilen Kontakt zwischen dem abspulenden Band und dem Videokopf, d.h. insgesamt gleichmäßigen Bandzug herstellen.

2. Tension/Tension Pole Adjustments

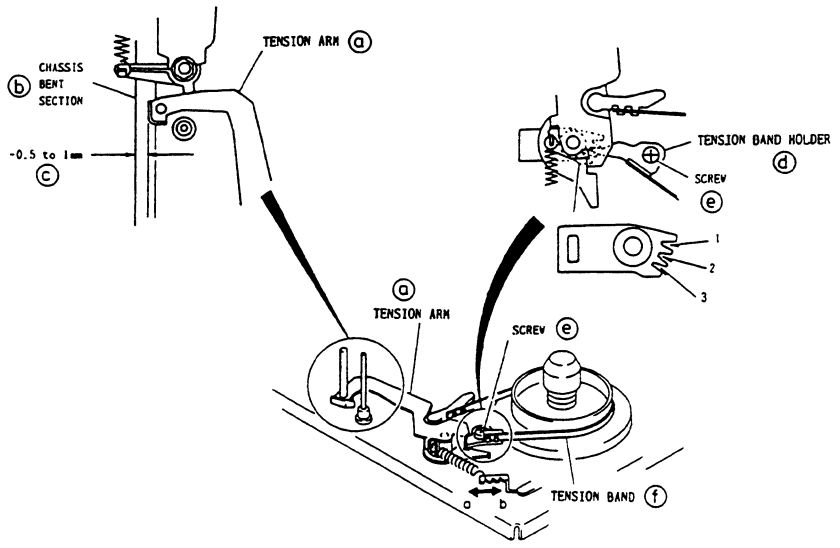
Purpose: Stabilize contact between video head and tape being supplied so that the tape tension is uniform throughout.

2. Regolazione della trazione nastro e della posizione dell'asta di tensione

Scopo: contatto stabile tra il nastro in svolgimento e la testina, cioe' dare luogo ad una trazione del nastro - generale - regolare.

Meßgeräte/Hilfsmittel Test Equipment/Jigs Apparecchi di misurazione/ mezzi ausiliarii	Abgleichvorbereitungen Preparation for adjust Operazioni preliminari	Betriebszustand d. Videorec. VTR State Impostazioni sul videoregistratore	Abgleichpunkt Adjustment Point Punto di taratura
Positionsabgleich Position adjustment Regolazione della posizione	----	1)Obere Gehäuseschale entfernen. 2)Den VTR in den eingefädelten Zustand ohne Cassette versetzen (siehe Seite 69). Bandzugeinstellung: 3)Bandzugcassette laufen lassen. 1)Remove the top cover. 2)Set the VTR to the loading state without inserting a cassette (see page 69) Tension adjustment: 3)Play the tension cassette. 1)Eliminare il pannello superiore. 2)Portare il VTR nello stato inserito senza cassetta (vedi pag. 69) Allineamento trazione nastro 3)Lasciare funzionare la cassetta trazione nastro.	Positionseinstellung: Bremsbandhalterung Positon adjustment: Tension band holder Regolazione della posizione: Supporto freno a nastro Bandzugeinstellung: Einhängeposition der Bandzugfeder Tension adjustment: Tension spring hooking position Regolazione della trazione: Gancio della molla di tensione

Abgleichvorgang	Adjustment Procedure	Procedura per la taratura
Positionseinstellung 1) Die Bremsbandbefestigungsschraube lösen. 2) Die Bremsbandhalterung in eine der Einkerbungen 1 bis 3 einsetzen und den Spalt zwischen Spannstift und Chassis auf 0,5mm bis 1mm einstellen. 3) Die Bremsbandbefestigungsschraube festziehen. 4) Nach der Einstellung nochmal einen Ladevorgang ohne Cassette durchführen und die Position des Spannstifts erneut prüfen. Bandzug-Einstellung Ablesewert der Bandzugmeßcassette: 30 - 40gcm (Referenzwert) Ist der Bandzug größer als der Referenzwert,dann die Feder in Richtung A versetzen. Ist der Wert dagegen kleiner, dann die Feder in Richtung B verschieben. Achtung! Wird eine Korrektur von 6gcm oder mehr notwendig, dann muß anschließend die Position des Spannstifts kontrolliert und gegebenenfalls neu eingestellt werden (Abgleich wiederholen)!	Position Adjustment 1) Loosen the tension band retaining screw. 2) Insert the tension band holder into one of the grooves 1 to 3 and set the gap between the tension pole and chassis to 0.5 to 1mm. 3) Tighten the tension band retaining screw. 4) After adjusting, reload without inserting the tape and recheck the position of the tension pole. Tension Adjustment Reading of tension cassette: 30 - 40gcm (reference value) If tension is higher than reference value, move the spring in direction A. If tension is lower than the reference value, move the spring in direction B. Caution: If a 6gcm or larger change is made in tension position, recheck tension pole position. If the position is off, readjust the tension pole's position and tension.	Regolazione della posizione 1) Allentare la vite di fissaggio del freno a nastro. 2) Spostare il supporto su una delle scanalature 1-3 e regolare su 0,5-1mm la distanza fra perno di tensionamento e telaio. 3) Serrare la vite di fissaggio del freno a nastro. 4) Dopo la regolazione eseguire ancora un processo di caricamento senza cassetta e controllare la posizione dell'asta di tensione. Regolazione trazione nastro Valore di lettura della cassetta di misurazione di trazione nastro: 30-40gcm (valore di riferimento) Se la trazione del nastro e' maggiore del valore di riferimento, spostare la molla in direzione A . Se il valore e' invece minore, spostare la molla in direzione B . Attenzione! Se e' necessaria una correzione maggiore di 6gcm, e' necessario in seguito controllare ed eventualmente nuovamente regolare la posizione dell'asta di tensione (ripetere l'allineamento)!



(a)Bandzughebel
Leva tensionamento nastro
(b)äußere Chassiskante
Angolo esterno telaio

(c) 0,5 bis 1 mm
0,5 a fino 1 mm
(d) Bremsbandhalterung
Supporto freno a nastro

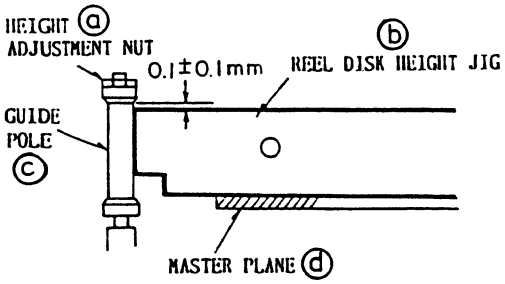
(e) Schraube
Vite
(f) Bremsband
Freno a nastro

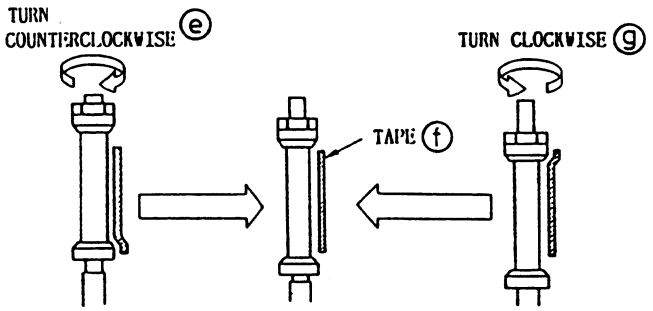
3. Bandführungsstift-Höhenjustage

Zweck: Steuerung der Magnetbandhöhe

Meßgeräte/Hilfsmittel Test Equipment/Jigs Apparecchi di misurazione/ mezzi ausiliarii	Abgleichvorbereitungen Preparation for adjust Operazioni preliminari	Betriebszustand d. Videorec. VTR State Impostazioni sul video- registratore	Abgleichpunkt Adjustment Point Punto di taratura
Hauptmeßlehre Wickeltellerhöhenmeßlehre Master plane Reel disk height jig Calibro principale Calibro d'altezza disco	1) Cassettenlademechanismus entfernen. 2) Hauptmeßlehre einsetzen und die Wickeltellerhöhen-meßlehre darauf auflegen. 1) Remove the cassette loading mechanism. 2) Mount the master plane and place the reel disk height jig on it. 1) Smontare il meccanismo di carica cassetta. 2) Montare il calibro di misurazione principale e porvi sopra il calibro di misurazione altezza del disco per nastro.	---	Die Justagemuttern der Bandführungsstifte (Aufwickel-/Abwickelseite) einstellen. Nuts on supply and take-up guide poles. Regolare i dadi di aggiustaggio dell'asta guida-nastro (lato di avvolgimento e di svolgimento).
Leercassette Blank tape Nastro vuoto	---	Wiedergabebetrieb Playback mode Funzionamento in modo Playback	

Abgleichvorgang	Adjustment Procedure	Procedura per la taratura
1) Den Spalt zwischen Unterkante des oberen Bandführungsstift-Flansches und Oberkante der Wickelteller-Höhenmeßlehre auf 0 bis 0,2mm einstellen.	1) Adjust the clearance between the bottom of the guide pole's upper flange and top of the reel disk height jig to 0 to 0.2mm .	1) La distanza fra l'angolo inferiore della flangia del perno superiore guida nastro e il bordo superiore di riferimento per la misura dell'altezza del disco di avvolgimento, deve corrispondere a circa 0-0,2mm.
2) Leercassette laden und abspielen. Das Band darf hierbei nicht über den oberen oder unteren Flansch des Bandführungsstifts gleiten.	2) Load a blank tape to run it and check that the tape does not ride over the upper and lower flanges of the guide pole.	2) Caricare una cassetta vuota e avviare in riproduzione. Il nastro non deve scorrere ne' sulla flangia inferiore ne' su quella superiore del perno guida.
3) Gleitet das Band über einen der Bandführungsstiftflansche muß die Führungsstifthöhe wie folgt eingestellt werden: Gleitet das Band über den oberen Flansch, dann die Mutter entgegen dem Uhrzeigersinn verdrehen. Gleitet das Band über den unteren Flansch, dann die Mutter im Uhrzeigersinn drehen.	3) If the tape rides over either flange adjust the height of the guide pole as follows. If the tape rides over the upper flange, turn the nut counterclockwise. If the tape rides over the lower flange, turn the nut clockwise.	3) Se questa condizione non e' rispettata, effettuare una nuova messa a punto dell'altezza di perni di guida. Procedere come segue: Girare il dado verso sinistra, se il nastro e' spostato verso la flangia superiore. Girare verso destra se il nastro e' spostato verso la flangia inferiore.





(a) Höheneinstellmutter
Dado di registrazione in altezza
(b) Wickeltellerhöhenmeßlehre
Calibro d'altezza disco
(c) Bandführungsstift
Perno guida nastro
(d) Hauptmeßlehre
Calibro principale

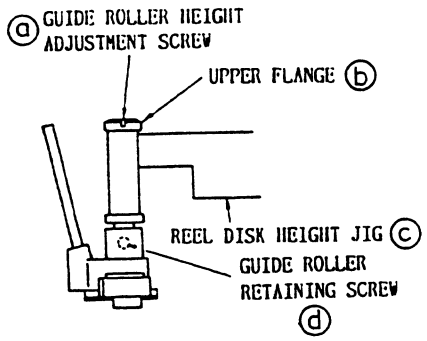
(e) Entgegen dem Uhrzeigersinn
In senso antiorario
(f) Band
Nastro
(g) Im Uhrzeigersinn
In senso orario

4. Bandführungsrollen-Höhenjustage	4. Guide Roller Height Adjustments	4. Aggiustamento altezza - rulli guida-nastro
Zweck: Steuerung der Magnetbandhöhe, damit die Bandunterkante entlang der Führung der Videokopftrommel läuft.	Purpose: Control tape height so the tape's bottom edge runs along the cylinder's tape guideline.	Scopo: guida dell'altezza del nastro magnetico in modo che l'estremita' inferiore del nastro scorra lungo la guida del tamburo della testina video.

Grobabgleich — Coarse Adjustment — Regolazione approssimativa

Meßgeräte/Hilfsmittel Test Equipment/Jigs Apparecchi di misurazione/ mezzi ausiliarii	Abgleichvorbereitungen Preparation for adjust Operazioni preliminari	Betriebszustand d. Videorec. VTR State Impostazioni sul videoregistratore	Abgleichpunkt Adjustment Point Punto di taratura
Hauptmeßlehre Wickeltellerhöhenmeßlehre Imbusschlüssel 0.9mm Master plane Reel disk height jig Hexagonal wrench 0.9mm Calibro principale Calibro d'altezza disco Chiave per esagoni cavi 0.9mm	1)Cassettenlademechanismus entfernen. 2)Hauptmeßlehre einsetzen und die Wickeltellerhöhenmeßlehre darauf auflegen. 1)Remove the cassette loading mechanism. 2)Mount the master plane and place the reel disk height jig on it. 1)Smontare il meccanismo di carica cassetta. 2)Montare il calibro di misurazione principale e porvi sopra il calibro di misurazione altezza del disco per nastro	---	Die Schrauben zur Höheneinstellung der Bandführungsrollen (Abwickelseite/Aufwickelseite) justieren. Height adjustment screws on the supply and take-up guide rollers. Aggiustare le viti per la regolazione dell'altezza del rullo guida-nastro (lato di avvolgimento e lato di svolgimento).

Abgleichvorgang	Adjustment Procedure	Procedura per la taratura
1)Die Bandführungsrollen-Sicherungsschraube soweit lockern,daß sich die Rolle während dem Ein-/Ausfädeln und Playback nicht verstellt. 2)Die Unterkante des oberen Führungsrollenflansches mit der Oberkante kante der Wickeltellerhöhenmeßlehre ausrichten. 3)Jetzt den Präzisionsabgleich durchführen.	1)Loosen the guide roller lock screw (so that the guide roller does not turn during loading, unloading and playback). 2)Align the bottom of the guide roller's upper flange and the top of the reel disk height jig. 3)Now make precision adjustments.	1)Allentare la vite di fissaggio del rullo guida-nastro in modo che questo non si sposti durante l'inserimento/estrazione e durante il Playback. 2)Mettere in linea il bordo inferiore della flangia del rullo di guida con il bordo superiore del calibro di altezza del disco per nastro. 3)Ora procedere all'allineamento di precisione.



(a) Höheneinstellschraube für Bandführungsrolle
Vite per la regolazione dell'altezza del rullo guida-nastro

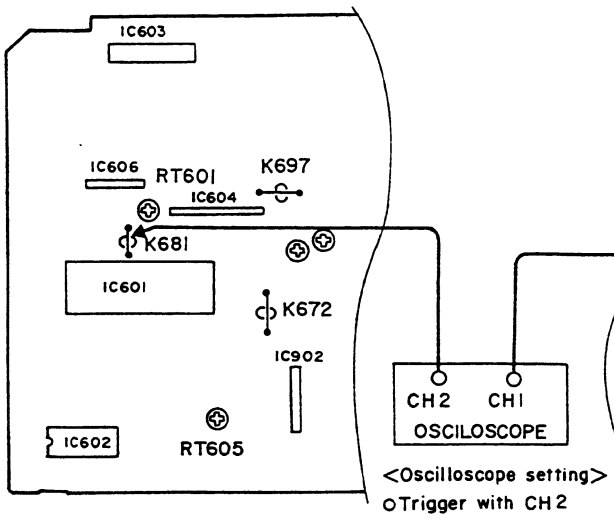
(b) Oberer Flansch
Flangia superiore

(c) Wickelteller-Höhenmeßlehre
Calibro d'altezza disco

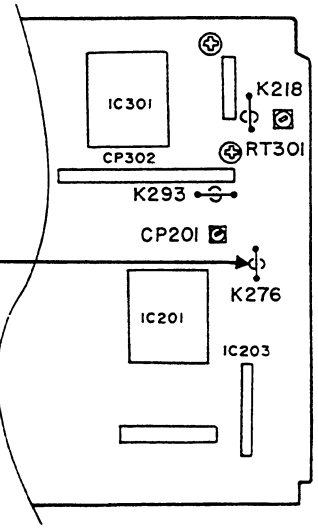
(d) Bandführungsrollen-Sicherungsschraube
Vite di sicurezza per rullo guida nastro

Meßgeräte/Hilfsmittel Test Equipment/Jigs Apparecchi di misurazione / mezzi ausiliarii	Abgleichvorbereitung Preparation for adjustment Operazioni preliminari	Betriebszustand d. Videorec. VTR State Impostazioni sul videoregistratore	Abgleichpunkte Adjustment points Punti di taratura
Oszilloskop Abgleichband Imbusschlüssel Oscilloscope Alignment Tape Hexagonal Wrench Oscilloscopio Nastro di taratura Chiave per esagoni cavi	CH1: K276 (PB FM) CH2: K681 (SW 25Hz)	Abgleichband wiedergeben Playback alignment tape Riprodurre nastro di allineamento	Bandführungsrollen-Höheneinstellschraube Screw for adjusting guide roller height Vite di regolazione altezza rullo guida-nastro

SSA CIRCUIT BOARD (Solder Side)

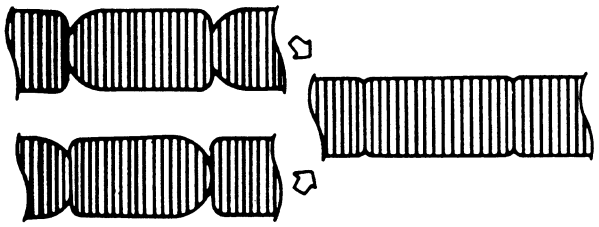


YTJ CIRCUIT BOARD (Solder Side)

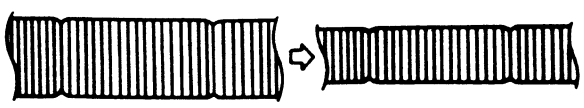


Oszilloskop-Einstellungen: Mit CH2 trigggern	Oscilloscope settings: Trigger with CH2	Regolazioni dell' oscilloscopio: Eccitare con CH2

Abgleichvorgang	Adjustment Procedure	Procedura per la taratura
1)Tracking-Regler: in Mittelstellung (wird dieser Abgleich nach dem Kopftrommelaustausch durchgeführt,dann den Regler so einstellen,daß das FM-Signal auf Maximum gebracht wird).	1)Tracking control: centered (when making this adjustment after replacing the cylinder, set the tracking control so the FM output is maximum).	1)Regolatore tracking: Nella posizione centrale (se questo allineamento viene eseguito dopo lo scambio del tamburo della testina, disporre il regolatore in modo che il segnale MF venga riportato al massimo).
2)Zum Linearisieren des FM-Signals die Höheneinstellschraube drehen.	2)Turn height adjustment screw to flatten the FM waveform.	2)Girare la vite di regolazione dell'altezza per linearizzare il segnale MF.
3)Tracking-Regler im Uhrzeigersinn drehen.	3)Turn the tracking control clockwise.	3)Girare il regolatore-tracking in senso orario.
4)Sicherstellen,daß die FM-Signaleinbrüche am Anfang und Ende der FM-Hüllkurve gleichmäßig sind.	4)Check that the FM drops at the start and end of the FM envelope are uniform.	4)Verificare che la caduta di segnale MF all'inizio e alla fine della curva avvolgente di banda MF sia simmetrica.
5)Sicherungsschraube festziehen.	5)Tighten lock screw.	5)Serrare la vite di sicurezza.



① Turn guide roller height adjustment screw a little at a time to flatten waveform.



② Tracking control centred

③ Turn tracking control clockwise

(1)Die Höheneinstellschraube ganz langsam verstellen um die Signalform zu linearisieren. Spostare molto lentamente la vite di regolazione altezza per linearizzare la forma del segnale.	(2)Tracking-Regler in Mittelstellung. Regolatore tracking nella posizione centrale.	(3)Tracking-Regler im Uhrzeigersinn drehen. Girare il regolatore tracking in senso orario.

5. Audio- und Control-Kopf

Zweck: Gleichmäßigen Kontakt zwischen Band und Kopf ermöglichen,um auf der vorgeschriebenen Spur aufzunehmen und wiederzugeben.

5. Audio and Control Head

Purpose: Ensure uniform contact between tape and head to record and play a prescribed track.

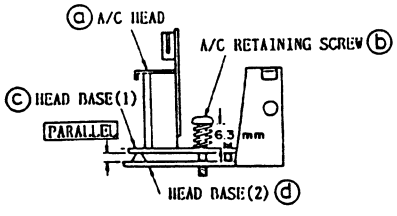
5. Testina AUDIO e CONTROL

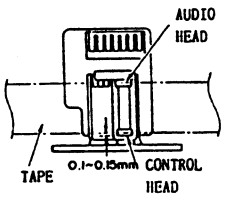
Scopo: Rendere possibile un contatto regolare tra nastro e testina per registrare e riprodurre sulla traccia prevista.

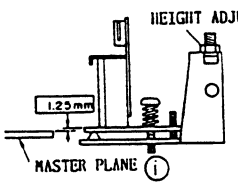
Meßgeräte/Hilfsmittel Test Equipment/Jigs Apparecchi di misurazione/ mezzi ausiliarii	Abgleichvorbereitungen Preparation for adjust Operazioni preliminari	Betriebszustand d. Videorec. VTR State Impostazioni sul video-registratore	Abgleichpunkt Adjustment Point Punto di taratura
Hauptmeßlehre Wickeltellerhöhenmeßlehre Master plane Reel disk height jig Calibro principale Calibro d'altezza disco Imbusschlüssel 1.5mm Hexagonal wrench 1.5mm Chiave per esagoni cavi 1.5mm	1)Cassettenlademechanismus entfernen. 2)Hauptmeßlehre einsetzen und die Wickeltellerhöhen-meßlehre darauf auflegen. 1)Remove the cassette loading mechanism. 2)Mount the master plane and place the reel disk height jig on it. 1)Smontare il meccanismo di carica cassetta. 2)Montare il calibro di misurazione principale e porvi sopra il calibro di misurazione altezza del disco per per nastro.	---	A/C-Kopfbefestigungsschraube Azimut-Einstellschraube Höheneinstellmutter Imbusschraube zur Neigungs-einstellung A/C head retaining screw Azimuth adjustment screw Height adjustment nut Tilt adjustment screw Vite di fissaggio della testa A/C Vite registrazione angolo azimutale Dado di registrazione in altezza Vite a esagono cavo dell'inclinazione
Leercassette Blank tape Nastro vuoto	---	Wiedergabebetrieb Playback mode Funzionamento in modo Playback	

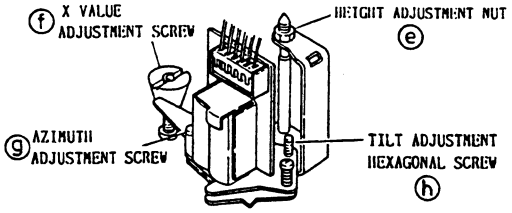
Abgleichvorgang	Adjustment Procedure	Procedura per la taratura
1) A/C-Kopfbefestigungsschraube: Kontrollieren, ob der mit einer Feder versehene Teil der A/C-Kopfbefestigungsschraube 6,3mm über die Oberkante der Kopfträgerplatte 1 hinausragt.	1) A/C head retaining screw: Check that the spring section of the A/C head retaining screw protudes 6.3mm over the top of the head base 1 .	1) Vite di fissaggio della testa A/C: Verificare che la vite con l'attacco per la molla sporga di 6,3mm dall'angolo superiore della piastra di supporto 1 della testina.
2) Imbusschraube zur Neigungseinstellung, Azimuteinstellschraube: Kopfträgerplatten 1 und 2 parallel ausrichten.	2) Tilt adjustment hexagonal screw, azimuth adjustment screw: Make head bases 1 and 2 parallel.	2) Vite a esagono cavo dell'inclinazione, vite registrazione angolo azimutale: Orientare parallelamente le piastre di supporto 1 e 2 della testina.
3) Höheneinstellmutter: Den Spalt zwischen Hauptmeßlehre und Kopfträgerplatte 1 auf ca. 1,25mm einstellen.	3) Height adjustment nut: Set the clearance between the master plane and head base 1 to approx. 1.25mm .	3) Dado di registrazione in altezza: La distanza fra lo calibro principale e la piastra di supporto 1 della testina deve essere fissata su 1,25mm .
4) Die Einstell-Lehren entfernen, eine Leercassette laden und den VTR auf Wiedergabe stellen.	4) Remove the adjustment jigs, load a blank tape and set the VTR to the play mode.	4) Eliminare calibro regolazione. Inserire una cassetta vuota e selezionare sull' apparecchi il modo operativo riproduzione.
5) Das Band darf dabei keine Falten bilden oder über den A/C-Kopf gleiten. Tritt dies auf, müssen die Neigungseinstellschraube,die Azimuteinstellschraube und die Höheneinstellmutter neu justiert werden. Die ideale A/C-Kopfhöhe ist erreicht wenn die Bandunterkante 0,1 bis 0,15mm von der Unterkante des Control-Kopfkerns entfernt vorbeiläuft.	5) Check that there is no conspicuous curling and riding over around the A/C head. If there is conspicuous curling or riding over, readjust the tilt adjustment hexagonal screw, azimuth adjustment screw and height adjustment nut. When the bottom edge of tape is 0.1 to 0.15mm from the bottom edge of the control head's core, the height of A/C head is ideal.	5) In questo ciclo il nastro non deve produrre piegature o scivolare oltre la testina A/C. Se questo pero' e' il caso, bisogna allora nuovamente regolare la vite di aggiustamento inclinazione, la vite ad angolo azimutale e il dado di regolazione altezza. L'altezza ideale della testina A/C e' reggiunta, quando l'estremita' inferiore del nastro scorre di 0,1 fino a 0,15mm dalla parte inferiore oltre al nucleo della testina-CONTROL.
6) Fortsetzung mit dem Präzisionsabgleich.	6) Perform the precise adjustment continuously.	6) Continuazione con i'allineamento di precisione.

(a) A/C Kopf
Testina A/C
(b) A/C-Kopfbefestigungsschraube
Vite di fissaggio della testa A/C
(c) Kopfträgerplatte 1
Piastra di base 1
(d) Kopfträgerplatte 2
Piastra di base 2
(e) Höheneinstellmutter
Dado di registrazione in altezza
(f) X-Werteinstellschraube
Vite di regolazione del valore X
(g) Azimut-Einstellschraube
Vite registrazione angolo azimutale
(h) Imbusschraube zur Neigungseinstellung
Vite a esogono cavo dell'inclinazione
(i) Hauptmeßlehre
Calibro principale









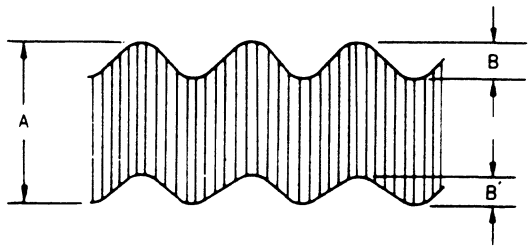
Präzisionsabgleich	Precision Adjustment	Regolazione fine	
Meßgeräte/Hilfsmittel Test Equipment/Jigs Apparechi di misurazione / mezzi ausiliarii	Vorbereitung für den Abgleich Preparation for adjustment Operazioni preliminari	Betriebszustand d. Videorec. VTR State Impostazioni sul videoregistratore	Abgleichpunkt Adjustment Point Punto di taratura
Oszilloskop Abgleichband Imbusschlüssel 1.5mm Oscilloscope Alignment Tape Hexagonal Wrench 1.5mm Oscilloscopio Nastro di taratura Chiave per esagoni cavi 1.5mm	Audio-Ausgang Audio output jack Uscita audio	Abgleichband wiedergeben (1KHz-Abschnitt) Playback alignment tape (1KHz section) Riprodurre nastro di allineamento (tratto 1KHz)	Azimut-Einstellschraube Höheneinstellmutter Neigungseinstellschraube Azimuth adjustment screw Height adjustment nut Tilt adjustment screw Vite registrazione angolo azimutale / Dado di registrazione in altezza / Vite a esogono cavo dell'inclinazione

Abgleich / Adjustm. Procedure / Procedura per la taratura

Jeweils geringfügig die Azimut-Einstellschraube,die Höhen-Einstellmutter und die Neigungsimbusschraube drehen,damit maximaler und gleichmäßiger Audiosignalpegel erreicht wird (Schwankungen vermindern).

Alternate turning, a little at a time, of the azimuth adjustment screw, the height adjustment nut and the tilt adjustment hex screw to both maximize and flatten audio output (minimize fluctuations).

Girare con una piccola fuga rispettivamente la vite di regolazione ad angolo azimutale, il dado di regolazione altezza e la vite imbus di inclinazione, in modo che venga raggiunto il massimo e il piu' uniforme livello di segnale audio (evitare oscillazioni).



A: maximum BB': minimum

6. X-Wert-Einstellung

Zweck: Kompatibilität mit anderen Videorecordern sicherstellen.
Achtung! Vor der X-Werteinstellung immer zuerst die Tracking-Grundeinstellung durchführen,die nach einem Kopftrommelwechsel erforderlich ist.

6. X Value Adjustment

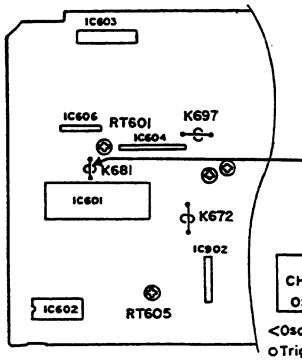
Purpose: Ensure compatibility with other VTRs.
Caution: Always perform the tracking preset adjustment that should be done when the cylinder is replaced before adjusting the X value.

6. Regolazione del valore X

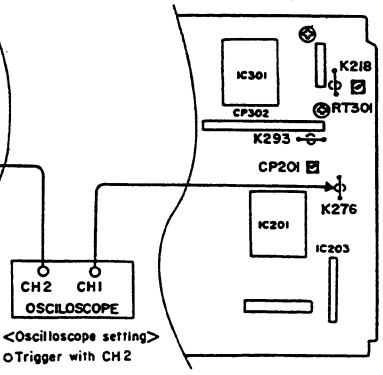
Scopo: Assicurare la compatibilita' con altri videoregistratori.
Attenzione: prima della regolazione del valore X si deve eseguire la regolazione di base del tracking, sempre necessaria dopo un cambio del tamburo della testina.

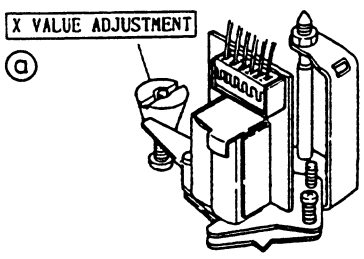
Meßgeräte/Hilfsmittel Test Equipment/Jigs Apparechi di misurazione / mezzi ausiliarii	Vorbereitung für den Abgleich Preparation for adjustment Operazioni preliminari	Betriebszustand d. Videorec. VTR State Impostazioni sul videoregistratore	Abgleichpunkt Adjustment Point Punto di taratura
Oszilloskop Abgleichband Imbusschlüssel 1.5mm Oscilloscope Alignment Tape Hexagonal Wrench 1.5mm Oscilloscopio Nastro di taratura Chiave per esagoni cavi 1.5mm	CH1: K276 (PB FM) CH2: K681 (SW 25Hz)	Abgleichband wiedergeben (Grautreppen- oder Farbbalkensignal) Playback alignment tape (the step waveform) Riprodurre nastro di allineamento (scala bianco e nero / scala cromatica)	X-Werteinstellschraube X value adjustment screw Vite di regolazione del valore X

SSA CIRCUIT BOARD (Solder Side)



YTJ CIRCUIT BOARD (Solder Side)





Oszilloskop-Einstellungen:
Mit CH2 triggern

Oscilloscope settings:
Trigger with CH2

Regolazione dell' oscilloscopio:
Eccitare con CH2

(a) X-Werteinstellung
X-Value Adjustment
Regolazione del valore X

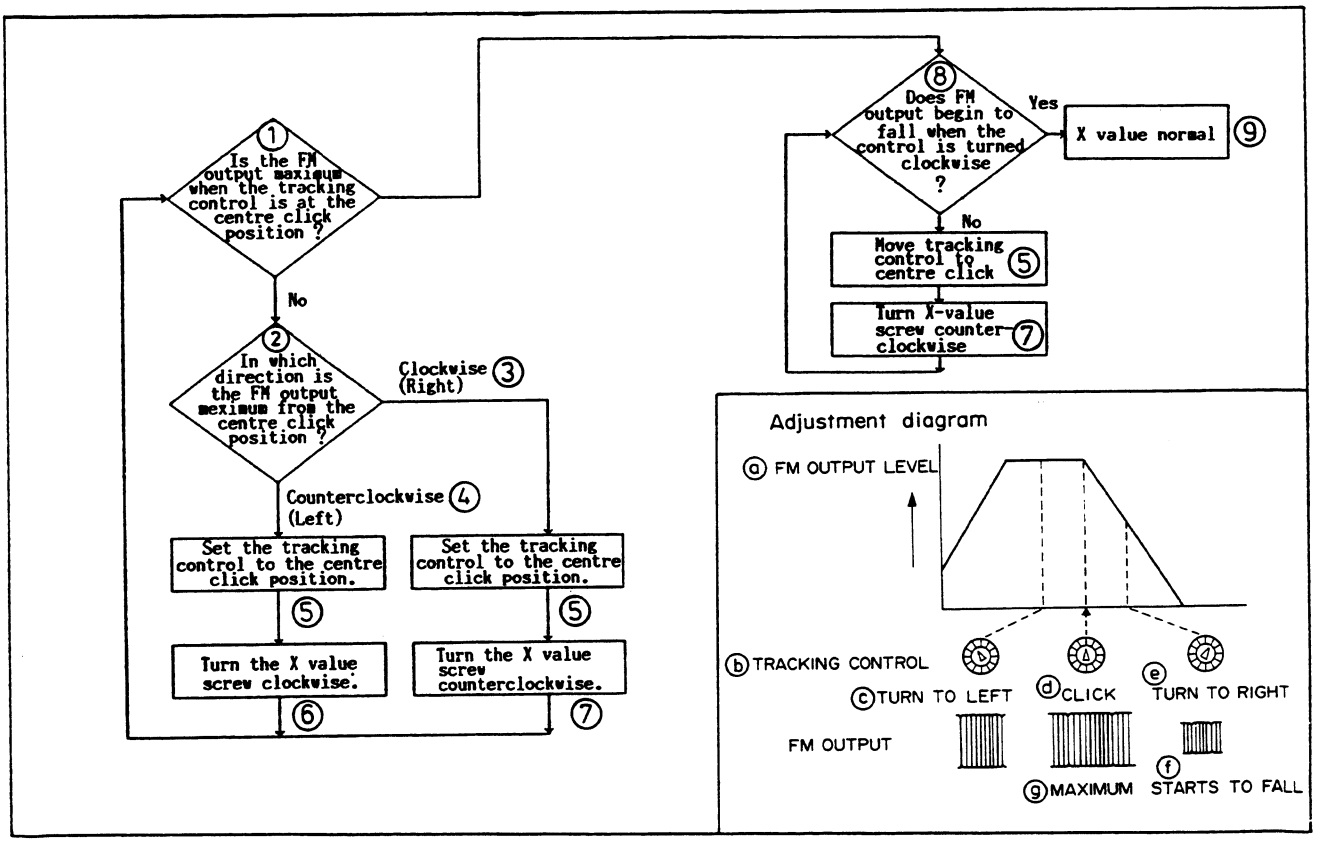
Abgleichvorgang	Adjustment Procedure	Procedura per la taratura
Der 57um-Kopf wird später einer 49um breiten Spur nachfolgen. Den Tracking-Regler auf Mittelrast drehen und die Einstellungen durchführen um ein max. FM-Signal zu erhalten. Oder den Regler im Uhrzeigersinn drehen, so daß das FM-Signal unmittelbar abzufallen beginnt.	Since the 57um head will trace over 49 um width track, center tracking control and make adjustments to maximize FM output, or turn the control clockwise so that the FM output begins to fall immediately.	La testina 57um seguira' poi una traccia larga 49um. Girare il regolatore tracking sulla posizione a scatto centrale ed eseguire la regolazione in modo da ottenere il massimo segnale MF. Oppure girare il regolatore verso destra in modo che il segnale MF cominci appena a diminuire.

(1)Ist das FM-Signal in max. Höhe, wenn der Tracking-Regler in Mittelraststellung steht?
(2)Erreicht das FM-Signal die max. Höhe, wenn der Tracking-Regler von der Mittelstellung ..... gedreht wird?
(3)... im Uhrzeigersinn ...
(4)... entgegen dem Uhrzeigersinn ...
(5)Tracking-Regler auf Mittelrast drehen
(6)X-Wertschraube im Uhrzeigersinn drehen
(7)X-Wert-Schraube entgegen dem Uhrzeigersinn drehen
(8)Beginnt das FM-Signal sich zu verringern, wenn der Tracking-Regler im Uhrzeigersinn gedreht wird?
(9)X-Wert normal

(a)FM-Ausgangspegel
(b)Tracking-Regler
(c)Entgegen dem Uhrzeigersinn
(d)Mittelraststellung
(e)Im Uhrzeigersinn
(f)FM-Signal beginnt abzufallen
(g)max. FM-Signal

(1)Il segnale MF e' al massimo quando il regolatore tracking si trova nella posizione a scatto centrale?
(2)Il segnale MF raggiunge il massimo quando il regolatore tracking viene girato dalla posizione a scatto centrale ....?
(3)... in senso orario .....
(4)... in senso antiorario .....
(5)Girare il regolatore tracking sullo scatto centrale.
(6)Girare in senso orario la vite del valore X
(7)Girare in senso antiorario la vite del valore X
(8)Il segnale MF inizia a diminuire quando il regolatore tracking viene girato in senso orario?
(9)Valore X normale

(a)Uscita MF
(b)Regolatore tracking.
(c)In senso antiorario.
(d)Posizione a scatto centrale.
(e)In senso orario.
(f)Il segnale MF inizia a cadere
(g)Segnale MF massimo.



7. Einstellungen nach dem Austausch der Videokopftrommel

Zweck: Unterdrückung von Abweichungen in der Höhe relativ zu den Bandführungsrollen und Minimierung des X-Wertes nach einem Kopftrommelaustausch.

7. Adjustments after replacing Cylinder (Video Head)

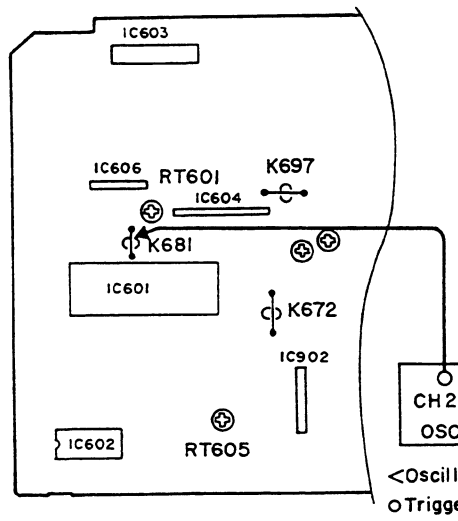
Purpose: To suppress drift in the height relative to the guide roller and to minimize the X value after replacing the cylinder.

7. Regolazione dopo lo scambio del tamburo della testina video

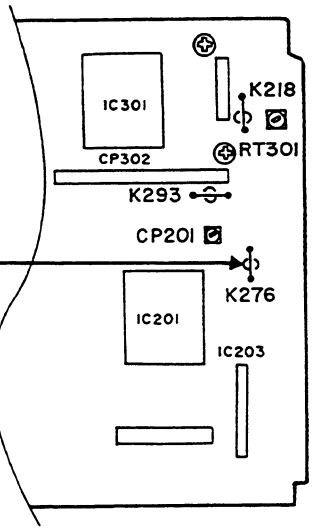
Scopo: Soppressione del movimento in altezza rispetto ai rulli-guida e minimazione del valore X dopo la sostituzione della testina video.

Meßgeräte/Hilfsmittel Test Equipment/Jigs Apparechi di misurazione / mezzi ausiliarii	Vorbereitung für den Abgleich Preparation for adjustment Operazioni preliminari	Betriebszustand d. Videorec. VTR State Impostazioni sul videoregistratore	Abgleichpunkt Adjustment Point Punto di taratura
Oszilloskop Abgleichband Leercassette Imbusschlüssel 0.9/1.5mm Schraubenzieher	CH1: K276 (PB FM) CH2: K681 (SW 25Hz)	Leercassette abspielen Abgleichcassette abspielen (Grautreppen oder Farbbalkensignal)	* Bandführungsrollen (siehe Präzisionsabgleich) * Kopfumschaltpunkt * Tracking-Grundeinstellung * X-Wert
Oscilloscope Alignment Tape Blank tape Screwdriver Hexagonal Wrench 0.9/1.5mm	(Kontrolle der Gleichmäßigkeit) (Checking flatness) (Controllare la regolarita' del segnale)	Playback blank tape Playback alignment tape (the step waveform)	* Guide Rollers (precise adjustment) * Switching point * Tracking preset * X value
Oscilloscopio Nastro di taratura Nastro vuoto Chiave per esagoni cavi 0.9/1.5mm Cacciavite		Riprodurre nastro vuoto Riprodurre nastro di allineamento (scala bianco e nero / scala cromatico)	* Rulli guidanastro (vedi "Regolazione fine") * Punto di commutazione della testa * Regolazione di fondo tracking * Regolazione del valore X

SSA CIRCUIT BOARD (Solder Side)

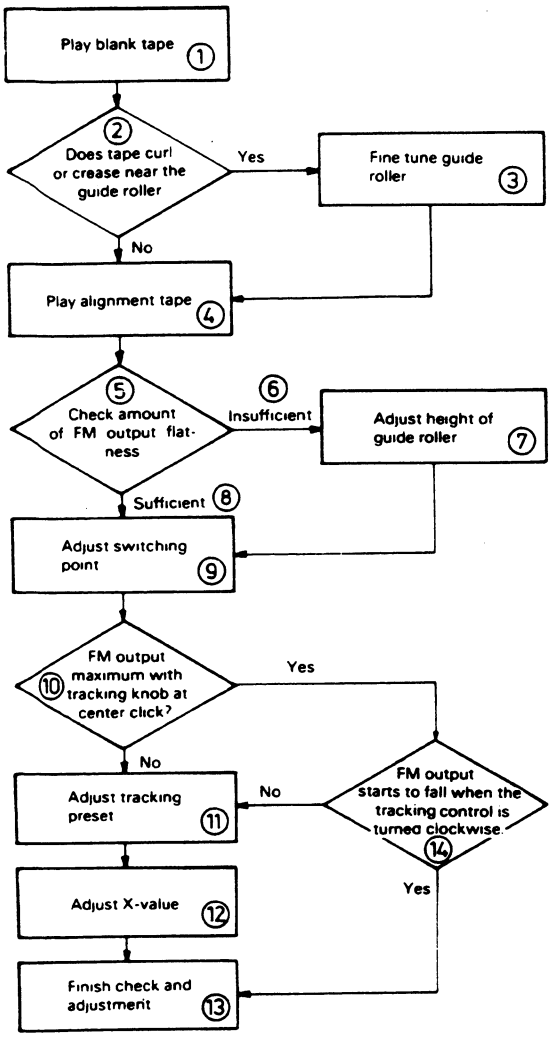


YTJ CIRCUIT BOARD (Solder Side)



Oszilloskop-Einstellungen:
Mit CH2 triggern

Regolazione dell' oscilloscopio:
Eccitare con CH2



(1) Leercassette abspielen.
Fare scorrere una cassetta vuota.

(2) Bildet das Band Falten und Knitter in der Nähe der Bandführungsrolle ?
Il nastro, forma delle pieghe vicino al rullo guidanastro?

(3) Feineinstellung der Bandführungsrolle.
Regolazione particolareggiata del rullo guidanastro.

(4) Abgleichband wiedergeben.
Riprodurre nastro allineatore.

(5) Die Gleichmäßigkeit d. FM-Ausgangssignals kontrollieren.
Controllare la regolarita' del segnale di uscita MF.

(6) Unzureichend.
Insufficiente.

(7) Höhe der Bandführungsrolle justieren.
Regolare l'altezza del rullo guidanastro.

(8) Genügend.
Sufficiente.

(9) Kopfumschaltpunkt einstellen.
Regolare il punto di commutazione della testina.

(10) FM-Pegel erreicht Maximum.
Il livello MF raggiunge il massimo.

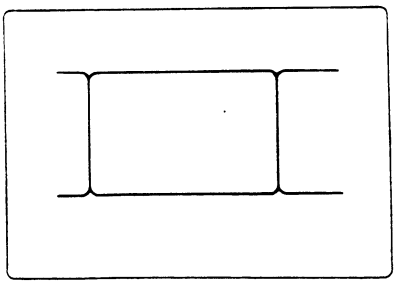
(11) Abgleich der Tracking-Grundeinstellung.
Allineamento della posizione di base del tracking.

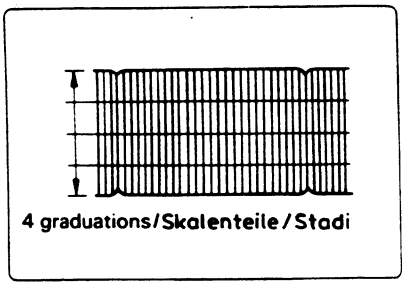
(12) X-Wertabgleich.
Allineamento valore X.

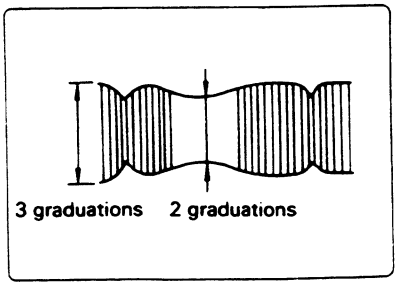
(13) Endkontrolle und Abschlußkorrekturen.
Controllo e correzioni finali.

(14) Das FM-Signal beginnt sich zu verringern, wenn der Tracking-Regler im Uhrzeigersinn gedreht wird ?
Il segnale MF, inizia a diminuire quando il regolatore tracking viene girato in senso orario?

Kontrolle der Schwankungen und der Linearität des FM-Ausgangssignals	Procedures for checking amount of fluctuations and flatness in FM output	Controllo delle oscillazioni e della regolarita' del segnale MF.
1) Den Tracking-Regler benutzen um das FM-Ausgangssignal auf Maximum zu bringen.	1) Use tracking control to maximize FM output.	1) Utilizzare il regolatore tracking per portare il segnale di uscita MF al massimo.
2) Durch Feinabgleich des Eingangsreglers am Oszilloskop die Anzeige des FM-Pegels auf 4 Skalenteile einstellen (=100%).	2) Fine tune the oscilloscope's voltage level range to adjust FM output to 4 graduations.	2) Regolare con allineamento particolareggiato del regolatore di entrata dell'oscilloscopio il display del livello MF su quattro parti di scala (=100%).
3) Den Tracking-Regler so verstellen, daß der max. FM-Ausgangspegel max. 3 Skalenteile beträgt.	3) Turn the tracking control to set the FM output's maximum amplitude at 3 graduations.	3) Spostare il regolatore tracking in modo che il livello di uscita MF massimo raggiunga max. e parti della scala.
4) Darauf achten, daß die minimalste Amplitude zu diesem Zeitpunkt 2 oder mehr Skalenteile betragen muß.	4) Make sure the minimum amplitude at this time is at 2 graduations or higher.	4) Assicurarsi che l'ampiezza minima al momento corrisponda a 2 o a piu' parti della scala.
5) Darauf achten, ob die Differenz der Pegelschwankungen zwischen Minimum und Maximum kleiner als 13% ist.	5) Make sure the difference between maximum and minimum level fluctuation is 13% or less.	5) Assicurarsi che la differenza delle oscillazioni di livello tra minimo e massimo sia minore del 13% .







8. Drehmoment- und Bandzugkontrolle

Zweck: Die Kontrolle der Drehmomente und Andruckkräfte der das Band drehenden und bewegenden Komponenten ist notwendig um einen gleichmäßigen Bandlauf zu ermöglichen und die Recorderfunktionen zu gewähren. Diese Kontrolle bei ungleichmäßigem Bandlauf oder falscher Bandgeschwindigkeit durchführen.

8. Checking Tension and Torque

Purpose: Checking tension torque and pressure on the components that wind and move the tape is necessary to ensure smooth tape run and fulfill the VTR's basic functions. Make check when tape run is rough or tape speed is incorrect.

8. Controllo del momento torcente e della trazione del nastro

Scopo: E' necessario il controllo dei momenti torcenti e delle forze di pressione e delle componenti che muovono e girano il nastro per rendere possibile uno scorrimento regolare del nastro e per garantire le funzioni di registrazione. Svolgere questi controlli nel caso di scorrimento irregolare o velocita' irregolare del nastro.

Meßgeräte / Hilfsmittel Test Equipment Apparecchi di misurazione / mezzi ausiliarii	Betriebszustand des Videorecorders VTR State Impostazioni sul videoregistratore
Drehmomentmesser / Adapter für Drehmomentmesser Blattfeder-Zugspannungsmesser / Dummy-Wickelteller Torque gauge / Torque gauge adaptor Fan-shaped tension gauge / Dummy reel Dinamometro / Adattore per dinamometro Misuratore della forza trazione / Disco di misura	Den Videorecorder ohne geladene Cassette betreiben (siehe S.69). Operate VTR without loading tape cassette (see page 69). Il metodo per spostare il VR senza cassetta inserita nello stato di caricamento (vedi pag. 69).

Bezeichnung Item Denominazione	Betriebsart d. Videorecord. VTR Operation mode Impostazione sul video-registratore	Meßwickelteller Measurement reel Disco per nastro misurato	Meßwerte Measurement values Valore rilevato
Hauptbremsmoment Main brake torque Freno principale	Stopp (Hinweis) Stop (Note) Stop (Nota)	Vorrats-/Aufwickelteller Supply and take-up reels Disco di svolgimento ed avvolgimento	170 gcm oder mehr 170 gcm or more 170 gcm o piu'
Ausfädeldrehmoment Slack removal torque Coppia sfilamento	Ausfädeln Unloading Sfilamento	Vorratsteller Supply reel Disco di svolgimento	90 - 230 gcm
Schnellvorlaufdrehmoment Fast forward torque Coppia avanzamento rapido	Schnellvorlauf Fast forward Avanzamento rapido	Aufwickelteller Take-up reel Disco di avvolgimento	400 gcm oder mehr 400 gcm or more 400 gcm o piu'
Rücklaufdrehmoment Rewind torque Coppia ritorno	Rücklauf Rewind Ritorno	Vorratsteller Supply reel Disco di svolgimento	400 gcm oder mehr 400 gcm or more 400 gcm o piu'
Aufspuldrehmoment Take-up torque Coppia avvolgimento	Wiedergabe Play Riproduzione	Aufwickelteller Take-up reel Disco di avvolgimento	80 - 170 gcm
Gegendrehmoment Back-tension torque Coppia di rotazione inversa	Schnellvorlauf Fast forward Avanzamento rapido	Vorratsteller Supply reel Disco di svolgimento	4 -20 gcm
	Rücklauf Rewind Ritorno	Aufwickelteller Take-up reel Disco di avvolgimento	

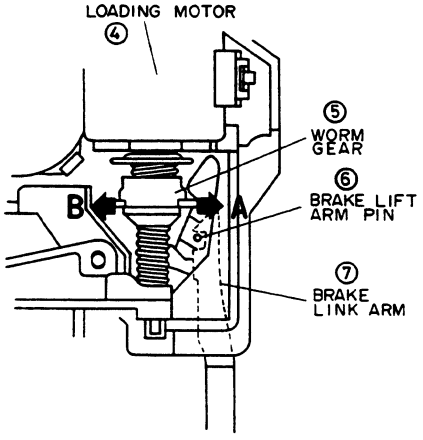
Prüfmethode: Die Werte sind gemessen worden unter Verwendung eines Drehmomentmessers und eines daran befestigten Drehmoment-Adapters.	Checking method: The values are measured using a torque gauge and torque gauge adaptor with the torque gauge fixed.	Metodo di controllo: I valori sono stati misurati con misuratore di coppia e adattore idoneo.

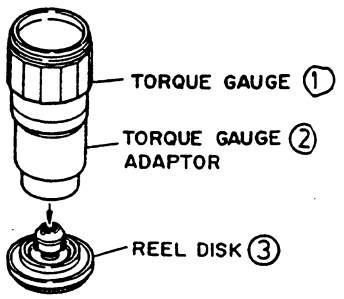
Hinweis:
Die Schnecke in Pfeilrichtung A in den Stop-Betrieb drehen (Ziffer 2), danach den Zeiger auf dem Mechanischen Zustandsschalter auf Ziffer 3 schalten, damit die Hauptbremse auf den Vorratsteller einwirkt. Dann die Schnecke in Pfeilrichtung B drehen, damit der Bremsverbindungshebel vom Stift des Bremshubhebels freigegeben wird (das Wickeltellerantriebszahnrad (Zwischenrad) in Mittelstellung versetzen).

(1) Drehmomentmesser / Dinamometro
(2) Drehmomentadapter / Adattore per dinamometro
(3) Wickelteller / Disco per nastro
(4) Einfädelmotor / Motore inserimento nastro
(5) Schnecke / Vite senza fine
(6) Stift des Bremshubhebels / Perno della leva di corsa del freno
(7) Bremsverbindungshebel / Leva collegamento sistema frenante

Note:
Turn the worm gear in the direction of arrow (A) in the stop mode "2" and shift the pointer on the mechanism state switch to "3" so as to apply the main brake to the supply reel disk. Then turn the worm gear in the direction of arrow (B) so that the brake link arm is released from brake lift arm pin (set the reel drive gear (idler) to the centre position).

Nota:
Girare la vite senza fine in direzione della freccia A, in modo di stop (cifra 2), poi girare il commutatore meccanico di stato sulla cifra 3, in modo che il freno principale agisca sul piatto della riserva. Quindi girare la vite continua in direzione della freccia B per liberare la leva di giunzione del freno dal perno della leva di corsa del freno (spostare l'ingranaggio motore del piatto di avvolgimento (ingranaggio intermedio) nella posizione centrale).





9. Ladezustand ohne Cassette

Hinweis: Die Methode,um den VCR ohne eingesetzte Cassette in den Ladezustand zu versetzen.

1)Obere Gehäuseschale und Frontplatte abnehmen.
2)Die Cassettenlademechanik entfernen.

3)Netzstecker abstecken.
4)Den Vorratstellerendsensor und den Aufwickeltellerendsensor mit schwarzem Klebeband o.ä. abdecken um das Licht abzuhalten (siehe Sektion A der nachfolgenden Zeichnung).
5)Netzstecker am Netz anstecken.

6)VCR-Netzschalter einschalten.
In diesem Zustand akzeptiert der VCR alle Betriebsarten. Rücklauf kann jedoch nur für wenige Sekunden durchgeführt werden,da sich der Aufwickelteller im STOP-Zustand befindet und somit keine Wickeltellerimpulse erkannt werden können.

Achtung!
Nach den oben durchgeführten Operationen müssen immer die folgenden Schritte befolgt werden,damit ein originaler Betrieb möglich wird:
1)Das Klebeband von den Wickeltellerendsensoren entfernen .
2)Netzstecker nochmal vom Netz trennen um einen System-Reset des Steuermikroprozessors durchzuführen.

9. Loading State without Cassette

Note: To set VTR to the loading state without inserting a cassette.

1)Remove top cover and front panel.

2)Remove the cassette loading mechanism.
3)Remove AC plug from wall socket.
4)Cover the supply and take-up end sensors (sections A in the figure below) with black masking tape,etc. to shut off the light.

5)Insert AC plug into wall socket.

6)Turn VTR power on.
In this state, the VTR will accept all modes. However, rewind can be performed for only a few seconds because the take-up disk is in stop state and reel pulses cannot be detected.

Caution.
After the above operations, always use the following steps to return to the original modes.

1)Remove the masking tape, etc. from the supply and take-up reel disks.
2)Remove the AC plug from the wall socket once to reset the system control microprocessor.

9. Stato di caricamento senza cassetta

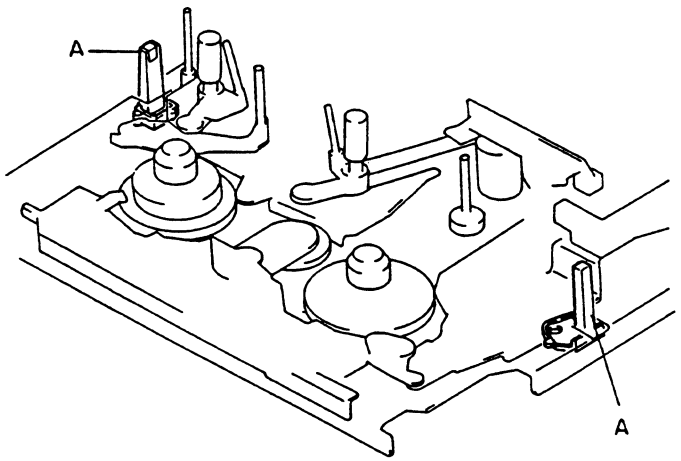
Nota: Il metodo per spostare il VR senza cassetta inserita nello stato di caricamento.

1)Togliere il pannello superiore e il pannello frontale.
2)Smontare il meccanismo per il caricamento della cassetta.
3)Estrarre la spina.
4)Coprire i sensori lato svolgimento e avvolgimento con nastro adesivo nero (vedere anche Parte dello schema che segue).

5)Riallacciare alla rete il videoregistratore.
6)Accendere l'interruttore principale del videoregistratore a cassette. In questo stato, il VR accetta tutti i modi operativi. Tuttavia il riavvolgimento puo' avvenire per solo pochi secondi, dato che il disco di avvolgimento si trova nello stato di stop e quindi non puo' venire riconosciuto alcun impulso del disco per nastro.

Attenzione!
Dopo avere svolto le operazioni nominate sopra bisogna eseguire sempre i seguenti passi per rendere possibile un funzionamento originale:
1)Togliere il nastro adesivo.

2)Separare ancora una volta la spina dalla rete di corrente per potere eseguire un sistema - reset del microprocessore.



Flußdiagramme zur Fehleranalyse in der Digitalverarbeitung

Die nachfolgenden Flußdiagramme dienen zur gezielten Analyse von Störungen auf der Leiterplatte Digitalverarbeitung.

Achtung!
* Nachprüfen, ob die Versorgungsspannungen A5V (PG1002 Pin 9) und S12 (PG1002 Pin 3) zu den anderen Leiterplatten geführt werden.
* Einen Grobabgleich der Leiterplatte Digitalverarbeitung durchführen.

* Werden keine speziellen Anweisungen gegeben, dann ein Farbbalkensignal an der Videoeingangsbuchse einspeisen und die Kanalwahltaste auf Position "AUX" stellen.

Fehleranalyse: Inhalt der Flußdiagramme

1. Kein Bild, wenn der OPERATE-Schalter eingeschaltet ist.
2. Kein Einblendbild im Bild-im-Bild-Betrieb. (Kein Digitalbetrieb)
3. Kein Luminanzsignal im Digitalbild (das gesamte Bild ist schwarz).
4. Keine Farbe im Digitalbild (teilweise oder vollständig).
5. Störung der horizontalen Synchronisation (hor. Rollen).
6. Störung der vertikalen Synchronisation (vert. Rollen).
7. Fehlende Abstufung (Bradation) (Bild mit Solarisationseffekt)
8. Unstabile Farbe (Farbrotation, Farbwechsel).
9. Andere Fehler als die oben aufgeführten, zusammengefaßt für jede Betriebsart.

SIGNALABKÜRZUNGEN IN DER DIGITALVERARBEITUNG

Digital Process Circuit Board Fault Analysis flowcharts

The following are flowcharts for the efficient analysis of faults in the digital process circuit board.

Cautions:
* Check that the supply voltages, A5V (PG1002 pin 9) and S12V (PG1002 pin 3), to other circuit boards are provided.
* Be sure to perform coarse adjustment of the digital process circuit board.

* When no special instructions are given, apply a colour bar signal to the video input jack and operate the channel select buttons to select "AUX".

Fault analysis: Contents of flowcharts

1. No picture when OPERATE switch is turned on.
2. No sub picture in the P in P mode. (No digital operation)
3. No luminance in the digital picture (the whole picture is black).
4. No colour in the digital picture (partially or fully).
5. Horizontal sync distortion (horizontal scrolling).
6. Vertical sync distortion (vertical scrolling).
7. Missing of gradation (picture with solarized effect).
8. Unstable colour (colour rotation, colour change).
9. The faults other than above are summarized in each mode.

ABBREVIATIONS OF DIGITAL PROCESS CIRCUIT

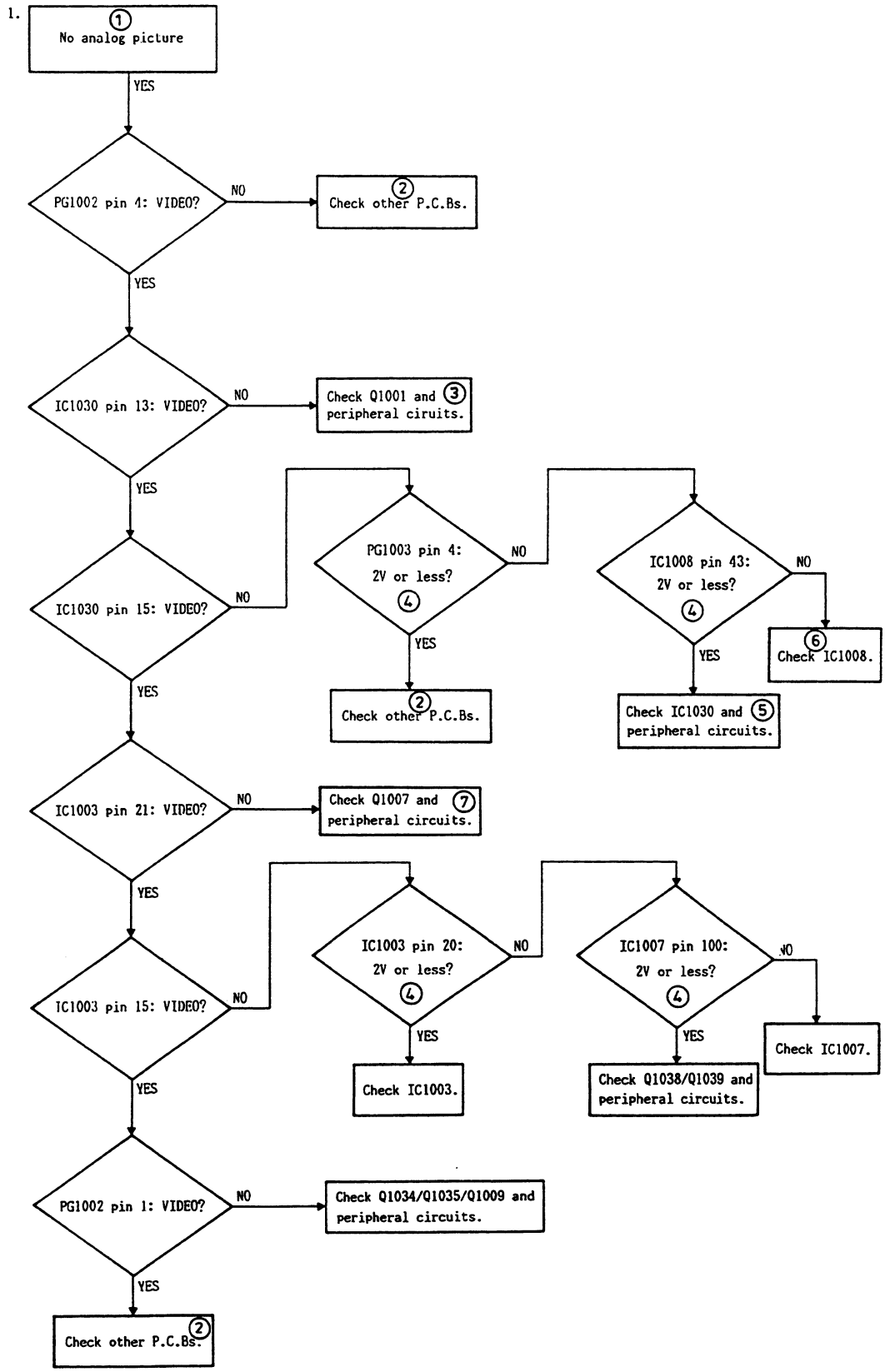
Diagrammi di flusso per l'analisi di errore dell'elaborazione digitale

I seguenti diagrammi di flusso servono per un 'analisi esatta dei disturbi sulla piastra dell'elaborazione digitale.
Attenzione:
* Controllare se le tensioni di alimentazione A5V (PG1002 pin 9) e S12 (PG1002 pin 3) sono avviate alle altre piastre.
* Eseguire una taratura di massima della piastra dell'elaborazione digitale.

* Se non sono date istruzioni speciali, alimentare la presa di ingresso del video con un segnale a strisce colorate e portare il pulsante di selezione canale sulla posizione "AUX".

Analisi di errore: contenuto dei diagrammi di flusso
1. Nessuna immagine se e' inserito l'interruttore OPERATE. 71
2. Nessuna immagine inserita in esercizio di immagine nell'immagine (nessun esercizio digitale) 72
3. Nessun segnale di luminanza nell' immagine digitale (il quadro e nero). 73
4. Nessun colore nell'immagine digitale (in parte o completamente). 74
5. Disturbo della sincronizzazione orizzontale (rotolamento orizzontale). 75
6. Disturbo della sincronizzazione verticale (rotolamento verticale). 76
7. Manca la gradazione (immagine con effetto di solarizzazione). 77
8. Colore instabile (rotazione del colore, cambiamento del colore). 77
9. Altri diffetti, diversi da quelli citati, riassunti per ogni modo di esercizio. 78

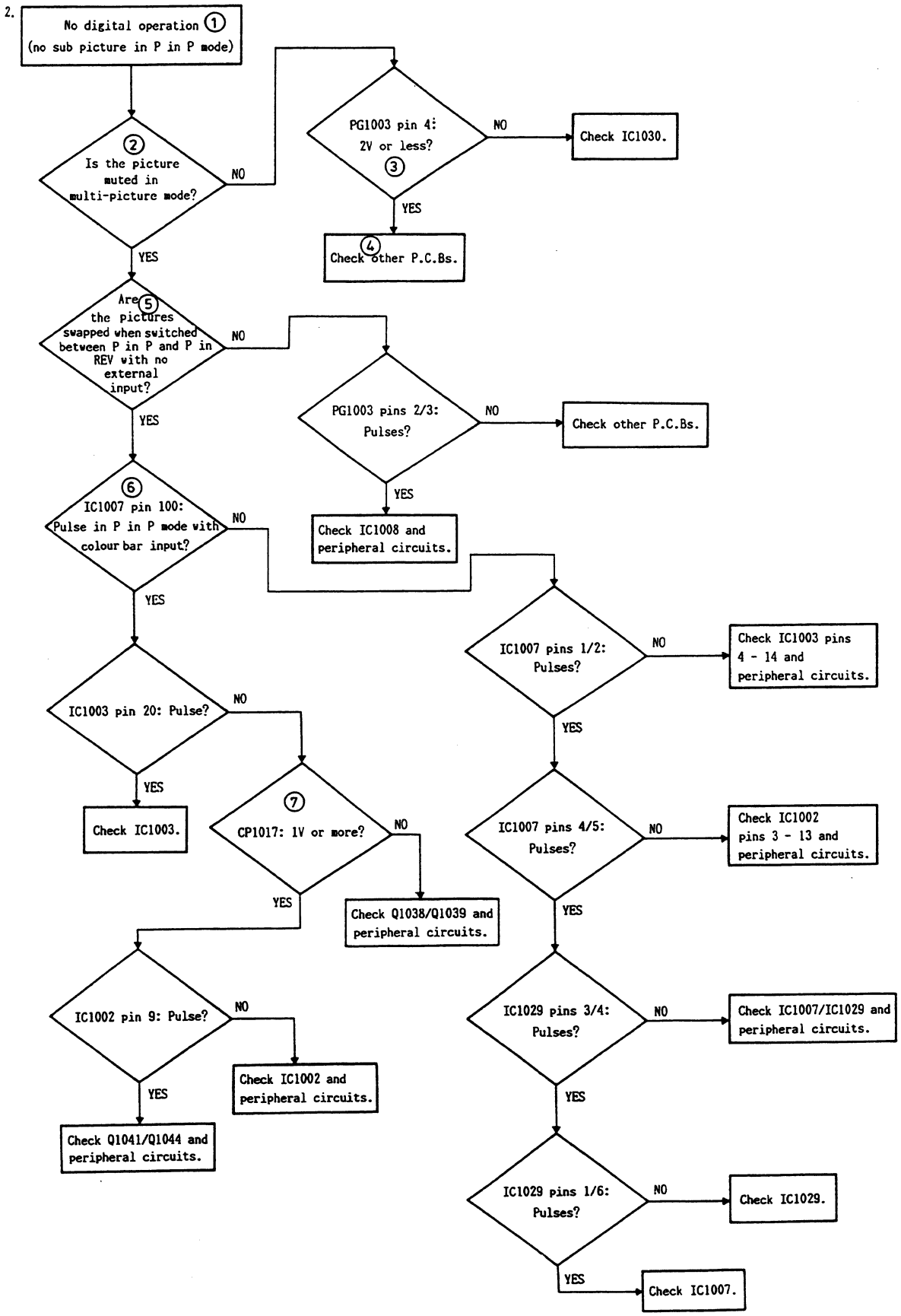
ACCORCIAMENTI DI SEGNALE NELL'ELABORAZIONE DIGITALE 79



(1)Kein Analog-Bild?
(2)Die anderen Leiterplatten prüfen.
(3)Q1001 und Peripheriekreise prüfen.
(4)2V oder weniger?
(5)IC1030 und Peripheriekreise prüfen.
(6)IC1008 prüfen.
(7)Q1007 und Peripheriekreise prüfen.

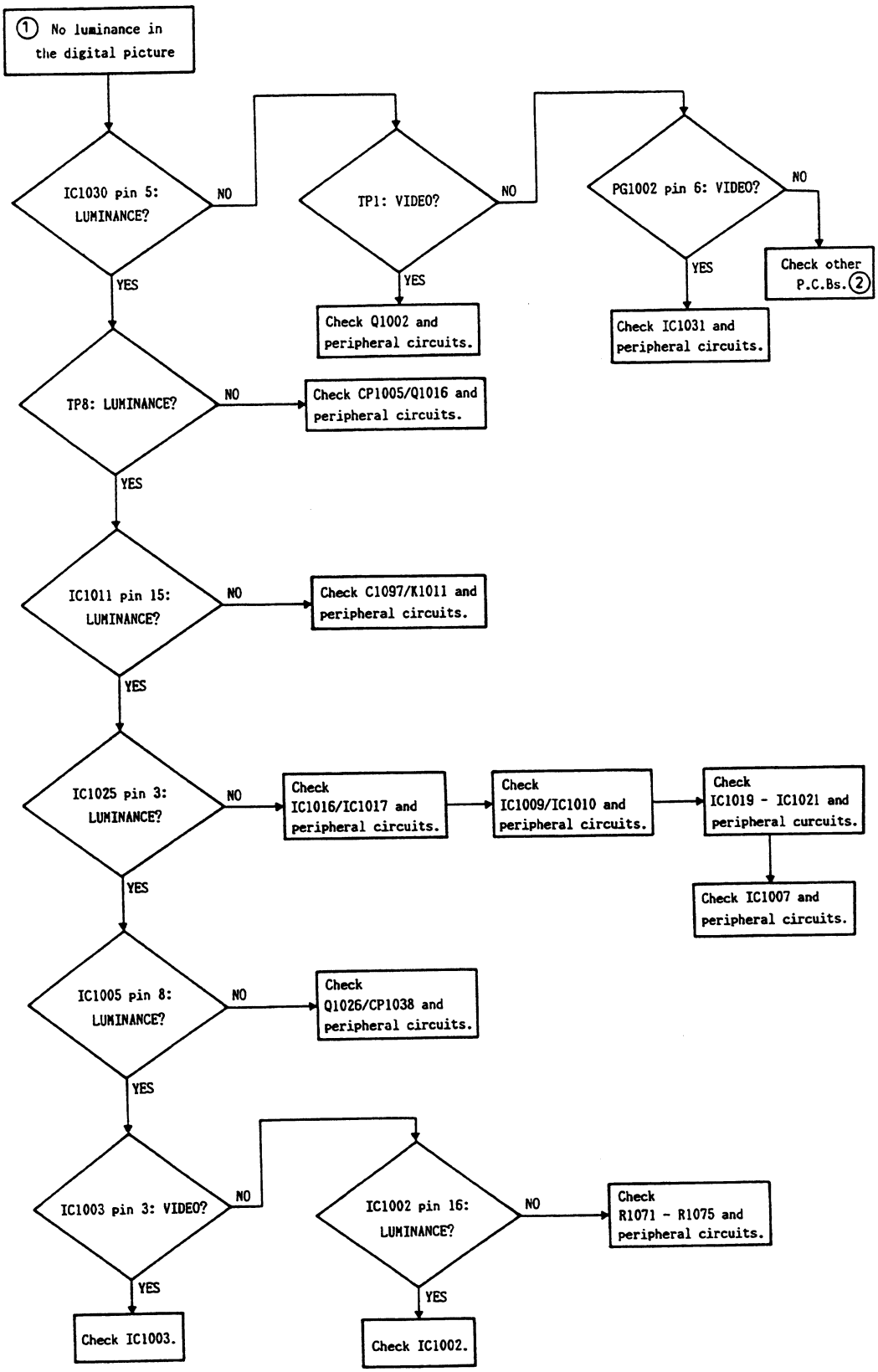
(1)Niente immagine analogica?
(2)Controllare le altre piastre.
(3)Controllare Q1001 e circuiti periferici.
(4)2V o meno?
(5)Controllare IC1030 e circuiti periferici.
(6)Controllare IC1008.
(7)Controllare Q1007 e circuiti periferici.

2.



(1)Keine Digitalverarbeitung (kein Einblendbild im Bild-in-Bild-Betrieb)?	(1)Niente elaborazione digitale (niente immagine inserita in esercizio immagine nell'immagine)?
(2)Ist das Bild im Multi-Bildbetrieb abgeschwächt?	(2)L'immagine e' debole in esercizio multiimmagine?
(3)2V oder weniger?	(3)2V o meno?
(4)Die anderen Leiterplatten prüfen.	(4)Controllare le altre piastre.
(5)Werden die Bilder beim Umschalten von Bild-in-Bild-Betrieb zu Bild-in-Bild-REV.-Betrieb ausgetauscht? (ohne ext. Signaleinspeisung)	(5)Le immagini sono scamabiate alla commutazione da esercizio immagine nell'immagine a immagine nell' immagine REV.? (senza alimentazione segnale esterna)
(6)Impulse im Bild-in-Bild-Betrieb bei eingespeisten Farbbalken?	(6)Impulsi in esercizio immagine nell'immagine con alimentazione di fasce di colori?
(7)1V oder mehr?	(7)1V o piu'?

3.



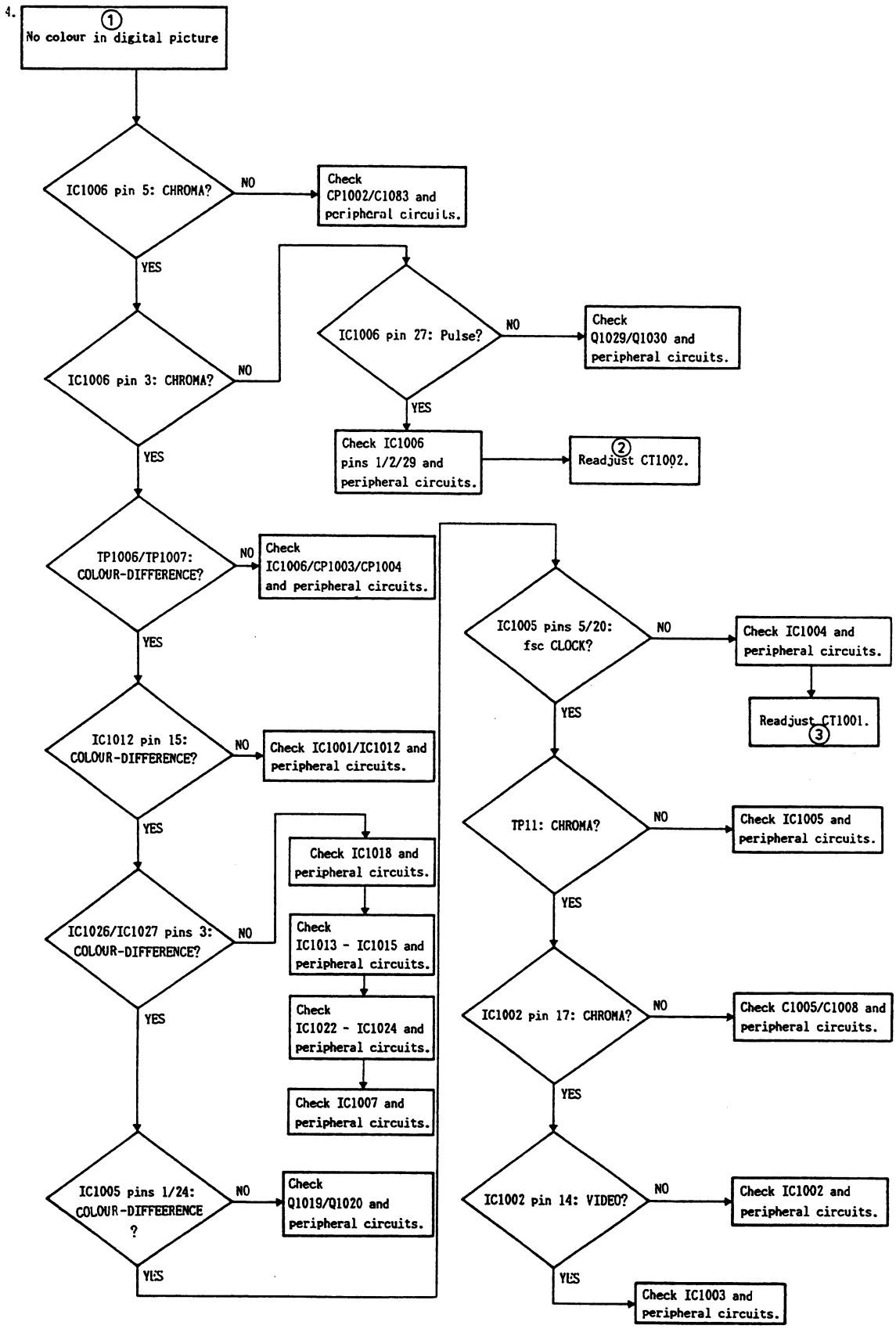
(1)Kein Luminanzsignal im Digitalbild?

(2)Die anderen Leiterplatten prüfen.

(1)Nessun segnale di luminanza nell'immagine digitale?

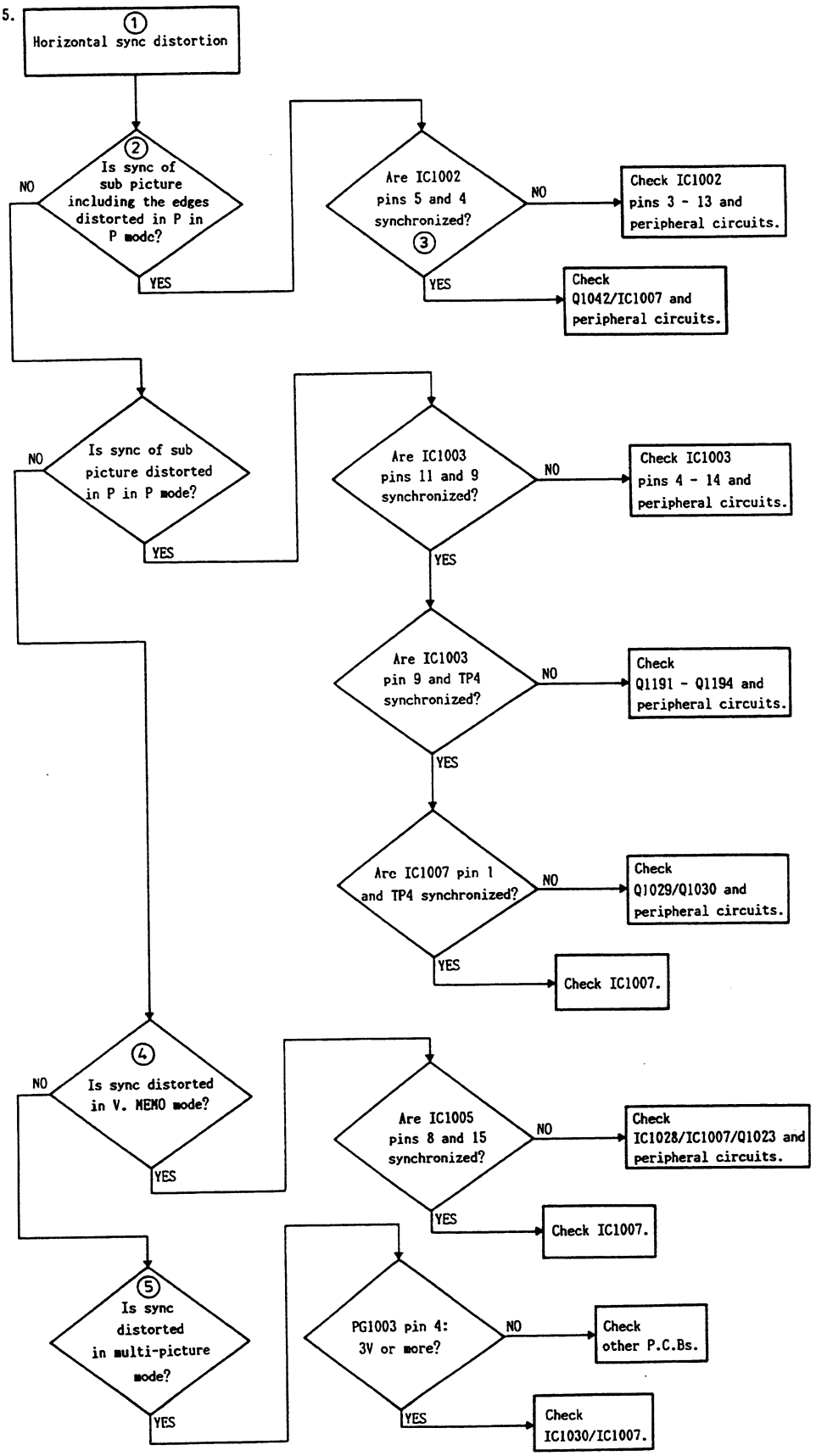
(2)Controllare le altre piastre.

4.



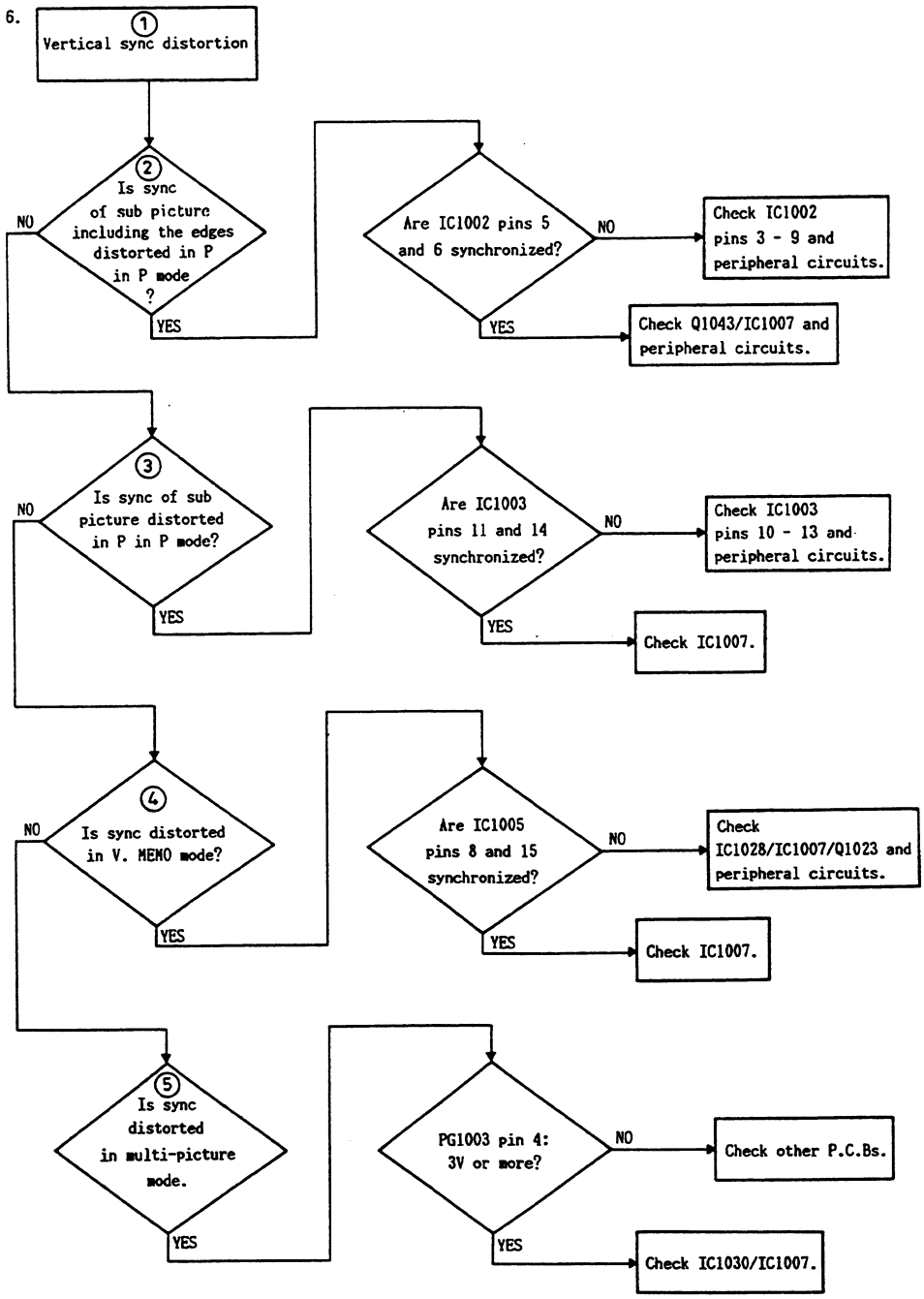
(1)Keine Farbe im Digitalbild?	(1)Nessun colore nell'immagine digitale?
(2)CT1002 neu einstellen.	(2)Regolare di nuovo il CT1002.
(3)CT1001 neu einstellen.	(3)Regolare di nuovo il CT1001.

5.

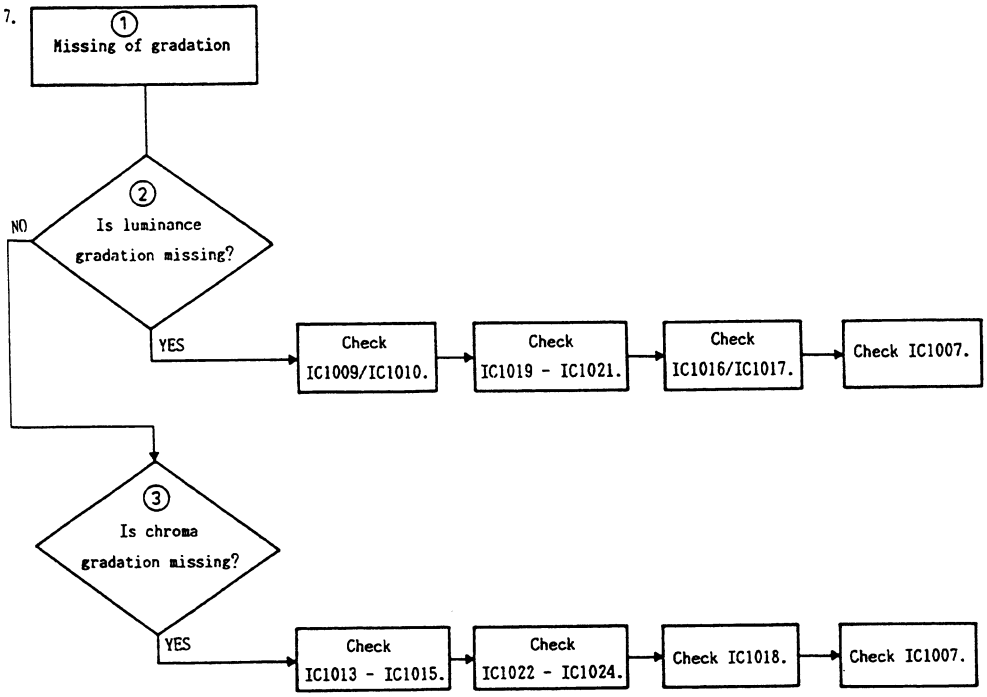


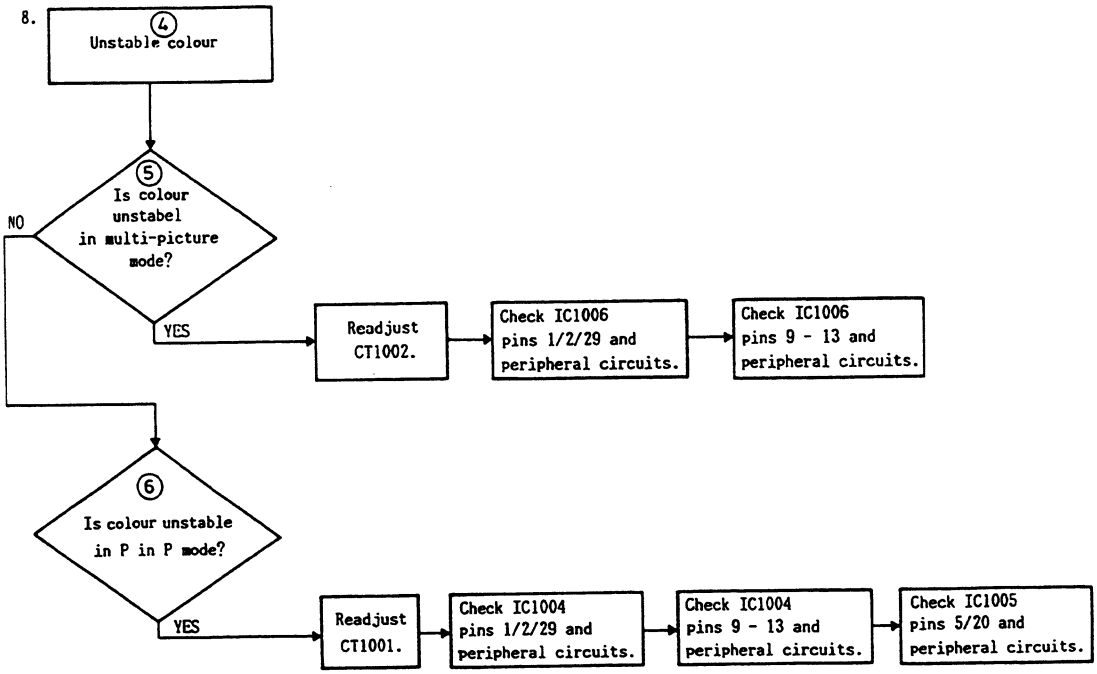
(1)Störung der hor. Synchronisation?	(1)Disturbo della sincronizzazione orizzontale?
(2)Ist die Synchronisation des Einblendbilds mitsamt den Ecken im Bild-im-Bild-Betrieb gestört?	(2)La sincronizzazione dell'immagine inserita e' disturbata insieme agli angoli in esercizio di immagine nell'immagine?
(3)IC1002: sind Pins 5 und 4 synchronisiert?	(3)IC1002: i pin 5 e 4 sono sincronizzati?
(4)Ist die Synchronisation im Speicherbildbetrieb gestört?	(4)La sincronizzazione e' disturbata in esercizio di immagine memorizzata?
(5)Ist die Synchronisation im Multi-Bildbetrieb gestört?	(5)La sincronizzazione e' disturbata in esercizio multiimmagine?

6.



(1)Störung der Vertikalsynchronisation?	(1)Disturbo della sincronizzazione verticale?
(2)Ist die Synchronisation des Einblendbilds mitsamt den Ecken im Bild-im-Bild-Betrieb gestört?	(2)La sincronizzazione dell'immagine inserita e' disturbata insieme agli angoli in esercizio di immagine nell'immagine?
(3)Ist die Synchronisation des Einblendbilds im Bild-im-Bild-Betrieb gestört?	(3)La sincronizzazione dell'immagine inserita e' disturbata in esercizio di immagine nell'immagine?
(4)Ist die Synchronisation im Bildspeicherbetrieb gestört?	(4)La sincronizzazione dell'immagine memorizzata e' disturbata?
(5)Ist die Synchronisation im Multi-Bildbetrieb gestört?	(5)La sincronizzazione e' disturbata in esercizio multiimmagine?





(1)Fehlende Abstufung (Bradation)?	(1)Manca la gradazione?
(2)Fehlende Luminanzabstufung?	(2)Manca la gradazione di luminanza?
(3)Fehlende Chroma-Abstufung?	(3)Manca la gradazione croma?
(4)Unstabile Farbe?	(4)Colore instabile?
(5)Unstabile Farbe im Multi-Bildbetrieb?	(5)Colore instabile in esercizio multiimmagine?
(6)Unstabile Farbe im Bild-im-Bild-Betrieb?	(6)Colore instabile in esercizio immagine nell' immagine?

9. Sonstiges Bild-in-Bild-Betrieb	9. Others P in P mode	9. Altri Esercizio immagine nell'immagine
Fehlererscheinung Phenomenon Difetto	Fehlerverursachender Schaltkreis Circuit causing fault Circuito causa del difetto	
Ecken und Bild verschoben Edges and picture drifted Angoli e immagine spostati	Ausgangsimpulsformer für Hilfsbild Sub picture output pulse shaper Formatore dell'impulso di uscita per l'immagine ausiliaria	Q1038-39, R1141-45, C1177-78
Cross-Color in den Ecken Cross colour in edges Cross-color negli angoli	Ecken-Chromapegel Edge chroma level Livello croma negli angoli	IC1013-1015
Flimmern des Hilfsbildes Sub picture flickering Tremolio dell'immagine ausiliaria	Luminanz-D/A (IC1025) Luminance D/A Luminanza D/A	R1175, D1007
Hilfsbild ist nicht schwarz ohne Eingangssignal / Sub picture is not black without input / L'immagine ausiliaria non e' nera senza segnale di ingresso	Hilfsbild-AFC (IC1003) Sub picture AFC Immagine ausiliaria AFC	Q1191-93, R1191-93, R1196
Farbeinstreuung ohne Eingangssignal für das Hilfsbild / Colour leaks without input for sub picture Dispersione colori senza segnale di ingresso per l'immagine ausiliaria	Hilfsbild-Decoder (IC1006) Sub picture decoder Decoder immagine ausiliaria	Q1194, R1197
Anstieg E-E-Kanalschalten Rise of EE channel switching Acsesa della commutazione canale E-E	Haupt-/Hilfsklemmung (IC1003) Main/sub clamp Clampatura principale/ausiliaria	R1173-74, C1037, C1123
Anstieg Speicherwiederabruf Rise from memory recall Acsesa nuova richiesta memoria	Hauptbild-Muting (IC1030) Main picture Muting Muting dell'immagine principale	R1194-95
Farbtonverschiebung bei höheren Temperaturen Tint drifted at high temperature Spostamento tono colore a temperature piu' alte	Hilfsbild-Decoder (IC1006) Sub picture decoder Decoder immagine ausiliaria	Q1012, R1051
Chromapegelverschiebung bei höheren Temperaturen / Chroma level drifted at high temperature / Spostamento livello croma a temperature piu' alte	Hilfsbild-Decoder (IC1006) Sub picture decoder Decoder immagine ausiliaria	D1006, R1101
Verschiebung der Weißbalance bei höheren Temperaturen / White balance drifted high temperature / Spostamento equilibrio del bianco a temperature piu' alte	Hilfsbild-Encoder (IC1005) Sub picture encoder Encoder immagine ausiliaria	R1026, R1054
Farbton nicht einstellbar Tint not adjustable Tono colore non regolabile	Hilfsbild-Decoder (IC1006) Sub picture decoder Decoder immagine ausiliaria	R1024-25, C1183-84
Gesamtes Hilfsbild grün Whole sub picture green Tutta l'immagine ausiliaria verde	D/A (IC1025-1027)	IC1025-27

Multibild-Betrieb	Multi-picture mode	Esercizio multiimmagine
Fehlererscheinung Phenomenon Difetto	Fehlerverursachender Schaltkreis Circuit causing fault Circuito causa del difetto	
Vertikal-Sync. fehlt im kleinen Bild V sync missing in small picture Nessun sincronizzazione verticale nell'immagine ausiliaria	IF uP (IC1008)	IC1008
Eckenpositionen nicht ausgerichtet Edge positions not aligned Posizioni angoli non orientati	IF uP (IC1008)	IC1008
Vertikales weißes Rauschen Vertical white noise Frusco bianco verticale	Memory (IC1016-18)	IC1016-18
Farben der 4/16-Bilder nicht übereinstimmend / Colours of 4/16 pictures not matched / Colori delle immagini 4/16 non corrispondono	Gate array (IC1007)	Q1025, 36, 52, C1175, R1022, R1126-28

Speicherbetrieb	V.MEMO mode	Esercizio memoria
Fehlererscheinung Phenomenon Difetto	Fehlerverursachender Schaltkreis Circuit causing fault Circuito causa del difetto	
Bild oben verzogen Skew across top of picture Immagine superiore distorta	Hilfsbild-AFC (IC1003) Sub picture AFC Immagine ausiliaria AFC	R1032-34, C1010-11
Weißgepunktete Störungen bei höherer Temperatur / White dot noise at high temperature / Disturbi a punti bianchi a temperatura piu' alta	Luminanz-A/D (IC1011) Luminance A/D Luminanza A/D	C1194-95
ID-Fehler bei höherer Temperatur ID misjudging at high temperature Errore ID a temperatura piu' alta	Decoder IC1006, IC1004)	R1081, R1140

Abkürzungen der Digitalsignale		Abbreviations of Digital Signals	Abbreviazioni dei segnali digitali
ADC B-Y	A/D-konvertiertes B-Y Signal	Analog to Digital Conv. B-Y Signal	Segnale B-Y convertito A/D
ADC R-Y	A/D-konvertiertes R-Y Signal	Analog to Dig. Conv. R-Y Signal	Segnale R-Y convertito A/D
ADC Y	A/D-konvertiertes Y-Signal	A/D Converted Luminance Signal	Segnale Y convertito A/D
CAS	Strobe Spaltenadresse	Column Address Strobe	Indirizzo di colonna strobe
C. BLANK	Chroma-Austaststsignal	Chroma Blanking	Segnale spegnimento croma
DRAM	Dynamisches RAM	Dynamic Random Access Menory	RAM dinamica
DEMPX	Demultiplexer	Demultiplexer	Demultiplexatore
DWC	Verzögertes Schreibtaktsignal	Delayed Write Clock	Segnale ritardo di scansione scrittura
DT/OE	Datentransfer/Ausgangsfreigabe	Data Transfer/Output Enable	Transfer dati/abilitazione uscita
D.REF25	Verzögerte 25Hz-Referenz	Delayed Reference 25Hz	Riferimento ritardo 25Hz
D.SW25	Verzögertes 25Hz-Schaltsignal	Delayed Switching 25Hz	Segnale commutazione 25Hz ritardo
INC	Zeilenzählererhöhung	Row Counter Increment	Aumento contatore righe
MEM	Speicher	Memory	Memoria
MEM VIDEO	gespeichertes Videosignal	Memorized Video	Segnale video memorizzato
MEM SW	Speicherschalter	Memory Switch	Interruttore memoria
MEM ON	Speicher EIN	Memory ON	Memoria inserita
MPX	Multiplexer	Multiplexer	Multiplexatore
MPX VIDEO	gemultiplextes Videosignal	Multiplexed Video	Segnale video multiplexato
O/E	un-/geradzahliges Halbbild	Odd/Even Field	Semiquadro pari/dispari
P IN P	Bild-in-Bild	Picture in Picture	Immagine nell'immagine
PIX MOVE	Bildverschiebung	Picture Move	Spostamento quadro
RC	Lesetakt	Reading Clock	Scansione di lettura
RCC	Lesetakt Löschen	Reading Clock Clear	Cancella scansione di lettura
RCR	Zeilenzähler Reset	Row Counter Reset	Resetta contatore righe
RAS	Strobe Zeilenadresse	Row Address Strobe	Indirizzo riga strobe
REF25	25Hz-Referenz von Servokreis	Reference 25Hz from servo circuit	Riferimento 25Hz dal circuito ausiliario
RFL	Auffrisch-Steuerung	Refresh Control	Comando aggiornamento
SC	Seriell-Steuerung	Serial Control	Comando seriale
WC	Schreibtakt	Write Clock	Scansione di scrittura
WCC	Schreibtakt Löschen	Write Clock Clear	Cancellazione di scrittura
WE	Schreib-Freigabe	Write Enable	Abilita scrittura
WRITE ENBL	Schreib-Freigabe	Write Enable	Abilita scrittura

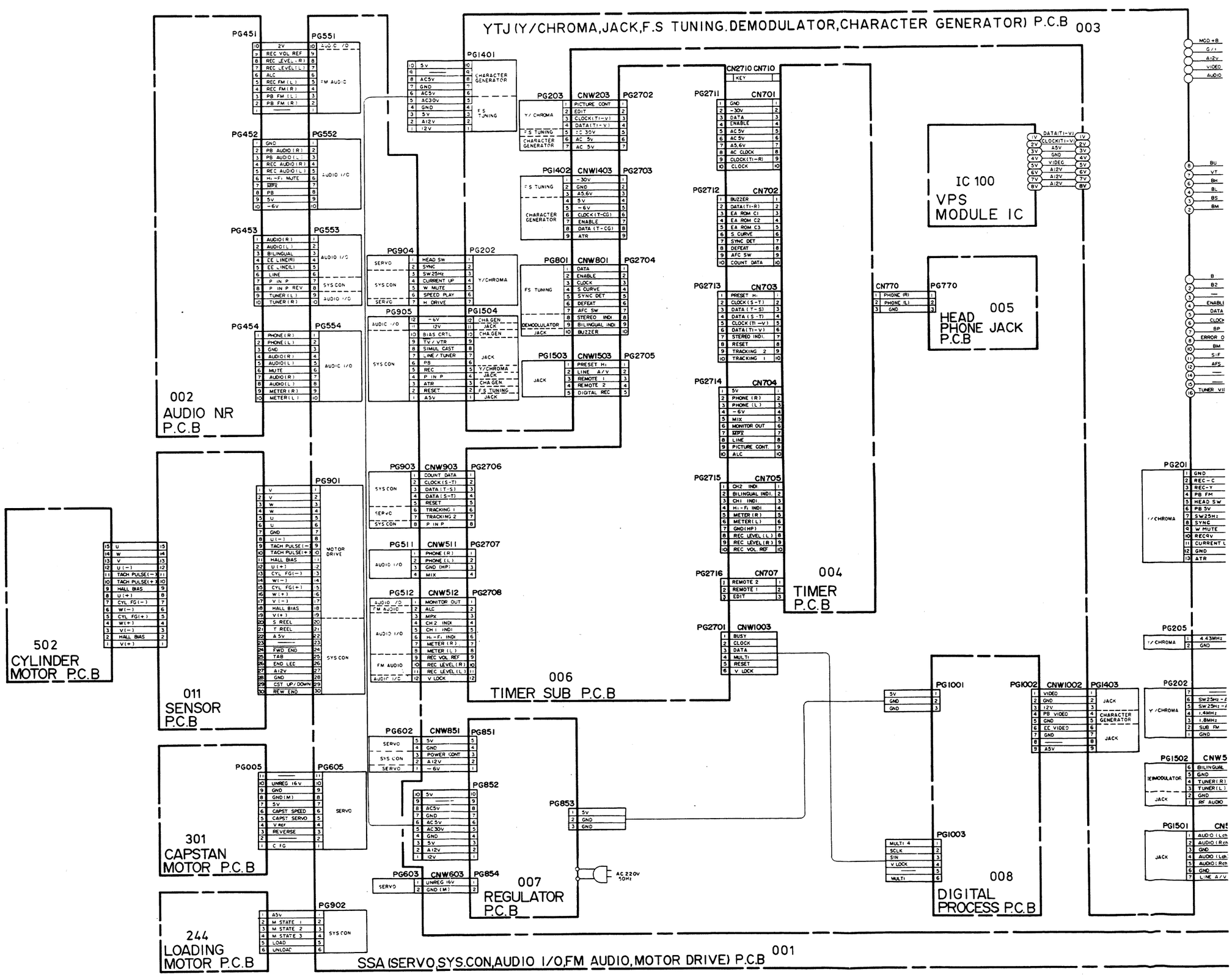
Beschreibung/Description/Descrizione	Modell/Model/Modello DC 570 H (CT)
System VHS HQ / VHS HQ system Sistema VHS HQ	*
Video-/Audioköpfe / Video/Audio Heads Testine video/audio	3/2
Fernsehnorm / Colour system Sistema video a colori	CCIR PAL,SECAM Dst / PAL colour system B/G,SECAM B/G / PAL B/G e SECAM-est
Stereo/HiFi/Zweiton/VPS Stereo/HiFi/Bilingual/VPS Stereo/HiFi/Bitono/VPS	*/*/*/*
Stromversorgung / Power line Alimentazione elettrica	220V +/-10%, 50Hz
Leistungsaufnahme / Power consumption Potenza assorbita	49W
Umgebungstemperatur / Ambient temperature / Temperature ambiente	+5 C bis +40 C / +5 C to +40 C +5 C fino +40 C
Rel. Luftfeuchtigkeit / Rel. humidity Umidita relativa'	max. 80%
Spieldauer max. / max. recording time Tempi di registrazione	240 Min. Video/480 Min. Audio
Bandgeschwindigkeit / Tape speed Velocita' del nastro	23.39mm/sec.(Video) 11.70mm/sec.(Audio)
Frequenzbereich / Frequency response Risposta frequenziale	20Hz - 20KHz (FM)
Signal-Rauschabstand (Audio) Signal to noise ratio (Audio) Rapporto segnale-disturbo (Audio)	>80dB (FM)
Klirrfaktor/Distorsion/Distorsione	<0.5% (FM)
Wow & Flutter	<0.005% (FM)
Audio-Eingangssignal (Impedanz) Audio input (impedance) Segnale di entrata audio (impedenza)	-2dBm (= 0.616V RMS) (50 KOhm)
Audio-Ausgangssignal (Impedanz) Audio output (impedance) Segnale di uscita audio (impedenza)	-2dBm (600 Ohm)
HF-Eingangssignal (Impedanz) RF input signal (impedance) Segnale di entrata AF (impedenza)	50 bis 85dBuV (75 Ohm) 50 to 85dBuV (75 ohms) 50 fino 85dBuV (75 Ohm)
HF-Ausgangssignal (Impedanz) RF output (impedance) Segnale di uscita AF (impedenza)	-40dBm (75 Ohm)
Videoeingangssignal (Impedanz) Video input signal (impedance) Segnale di entrata video (impedenza)	0,5Vss bis 1,5Vss (75 Ohm) 0.5Vp-p to 1.5Vp-p (75 ohms) 0,5Vp-P fino 1,5Vp-p (75 Ohm)
Videoausgangssignal (Impedanz) Video output (impedance) Segnale di uscita video (impedenza)	1,0Vss (75 Ohm) 1.0Vp-p (75 ohms) 1,0Vp-p (75 Ohm)
Video-Signal-Rauschabstand Video signal to noise ratio Rapporto segnale-disturbo video	43dB
Auflösung (Farbe)/Resolution (colour) Definizione (colori)	240 Zeilen / 240 lines / 240 linee
Empfangsbereiche / Range / Appare VHF I , VHF III , UHF IV/V Kabelkanäle/CATV/Canali per via cavo	K2 - K4 , K5 - K12 , K21 - K69 S1 - S40
Sendersuchlauf digital / Auto search tuning / Ricerca automatica stazioni	*
Stationsspeicherplätze / Memory facilities for stations / Memoria per programmi	69
Wiedergabe UHF-Kanal 37 / Playback UHF channel 37 / Riproduzione canale UHF 37	einstellbar K30 - K39 UHF 30 to 39 channel adjustable impostabile da K30 fino a K39
Timerprogrammierung/Timer Programming Programmare il timer täglich/wöchentlich daily/weekly quotidiane/settimanali	8 Programme/programs/programme 1 Jahr/year/anno */* */* */*
Netzausfallsicherung / Timer back-up Sicurezza per interruzione di corrente	*
IRT-Start/Dauer Instant recording timer(Start&Length) IRT-START (inizio/durata)	* * *

(* = ja / yes / si) (- = nein / no)

Beschreibung/Description/Descrizione	Modell/Model/Modello
	OC 570 H (CT)
Sonderfunktionen/Special Functions/ Funzioni speciali:	
OSD & Menü / OSD & Menu	*
Standbild (störstreifenfrei) / Still Picture (noise free) / Immagine ferma (priva di strisce di disturbo)	*
Standbildfortschaltung=Zeitlupeneffekt Still Picture Advance=Slow Motion Eff. Progressione dell'immagine ferma =effetto al rallentatore	*
Variable Zeitlupe / Variable Slow Motion / Rallentatore variabile	*
Bildsuchlauf vor-,rückwärts / CUE & REVIEW / Ricerca immagini(avanzamento/ riavvolgimento rapido)	*
ASSEMBLE/EDIT/AUTO REPEAT/MEMORY STOP	*/*/*/*
CTL-Index/SCANA-Suche Index Mode/SCANA Search Funzione di indice/Ricerca SCANA	*/*
VPS Ein,Aus / VPS On,Off / VPS acceso/ spento	*
Nachvertonung / Audio Dubbing / Sono- rizzazione successiva	*
Test: Demo-Programmablauf Test: Demonstration Program Test: Sequenza programma demo	*
Bildeffekte/Picture Effects/Effetti immagine:	
Art,Multi,Stroboskop,BIB,Title Making Art,Multi,Strobe,PIP,Title Making Art,Multimmagine,Effetto stroboscopi- co,immagine nell'immagine,Title Making	*/*/*/*/*
Bildeinfrierung/Freeze/Congelamento dell'immagine	*
Schalter,Regler Switches,Controls Interruttori,Regolatori	
MPX-Filter/MPX Filter/Filtro MPX	*
Aussteuerungsautomatik Ein/Aus ALC On/Off Dispositivo automatico di comando acceso/spento	*
Kopfhörerlautstärke/Headphone Volume/ Volume dell'auricolare	*
Video-Standbildsynchr. / Video Still Sync. / Sincr. video del fermoimmagine	*
TV-Standbildsynchr. / TV Still Sync./ Sincronizzazione TV del fermoimmagine	*
Anzeigen/Displays/Indicazioni:	
Restzeitanzeige/Remaining Time/Indica- zione del tempo rimanente	*
Kanalanzeige/Audio Channel Indicator/ Indicazione del canale audio di uscita	*
Zweiton-Anzeige/Bilingual Indicator/ Indicazione dei due canali di uscita	*
Nachvertonungsanzeige/Dubbing Indica- tor/Indicazione del doppiaggio	*
Fernbed. System RC5 / Remote Control RC5 System / Telecomando Sistema RC5	FB 500
Antennenbuchse/Aerial socket/Entrata per l'antenna	koaxial / coaxial / coassiale
Video Ein-/Ausgang / Video input/out- put / Entrata/uscita video	SCART,Cinch / Peri Connector,Cinch Prese SCART,Cinch
Audio Ein-/Ausgang / Audio input/out- put / Entrata/uscita audio	SCART,Cinch / Peri Connector,Cinch Prese SCART,Cinch
Mikrofoneingang/Microphone input/In- gresso micro	*
Kamera/Pause / Camera/Pause / Tele- camera/Presa pausa	*
3,5mm-Kopfhörerbuchse / 3.5mm Head- phones Jack / Presa per l'auricolare	regelbar / variable / variabile variable
Abmessungen BxHxT / Dimensions WxHxD Dimensioni LxAxP	43.6 x 9.3 x 38

(* = ja / yes / si) (- = nein / no)

Lage der wichtigen Steuer-IC's	Location of Main Control ICs	Posizione degli IC di comando piu' importanti
Funktionssystem Circuit Sistema funzionale	Bezeichnung Item Descrizione	
VIDEO SYSTEM	Y.SIGNAL PROCESSOR	HT4847 (IC201)
	CHROMA SIGNAL PROCESSOR	HT4809 (IC301)
	Y.VERT.PROCESSOR	HT4848 (IC202)
	COMB FILTER	HE8020 (IC204)
	CCD 1H DELAY	HT4664 (IC203)
AUDIO SYSTEM	IN-OUT SELECT/MODE SELECT	HA12117NT (IC501)
	FM AUDIO PROCESS	HA12118NT (IC503)
	NOISE REDUCTION	BA7720S (IC401)
	REC LEVEL CONTROL	M51131L (IC402)
	SUB SCREEN AUDIO SELECT	M61659L (IC404)
MPX DEMODULATOR	DEMODULATOR	IR.3P025 (IC1801)
CH TUNING SYSTEM	TUNING CONTROL/BAND SWITCH	upc1484CA (IC801) F.S
OSD	OSD uP	M50455-003SP (IC1401)
	AFC, SYNC SEPA, SYNC DET.	NJM2229S (IC1402)
SERVO SYSTEM	SPEED PHASE CONTROL	HD4716S (IC601)
	CYLINDER MOTOR DRIVE	HA13403 (IC603)
	CAPSTAN MOTOR DRIVE	TA8408 (IC1601)
	TRICK PLAY CONTROL	M54874P (IC602)
SYSTEM CONTROL	SYSTEM CONTROL uP	HD614088SB99 (IC901)
	LOADING MOTOR DRIVE	BA6209U2 (IC902)
	INDEX SEARCH CONTROL	HES-8026A (IC904)
TIMER	TIMER uP	M50955-678SP (IC701)
	EAROM	M58630P (IC702)
VPS	DATA LINE SLICER	HES8050
	DATA LINE DECODER	(VPS MODULE IC)
POWER SUPPLY	REGULATOR	STK5372H (IC851)
	5V REGULATOR	L7805CS (IC852)
	-6V REGULATOR	AN79N06 (IC853)
DIGITAL PROCESS	INPUT SIGNAL SELECT	HC4053FP (IC1001)
	P in P CHROMA H/V SIGNAL DECODER	HA11535MP (IC1002)
	SYNC SEPARATOR	NJM2217L (IC1003)
	CHROMA SIGNAL DECODER	M51271SP (IC1004, IC1006
	MAIN/SUB SCREEN SWITCH	HD14053FP (IC1030)
	AGC	M51489L (IC1031)
	1-FIELD MEMORY CONTROL	M65011FP (IC1007)
	SPECIAL EFFECT DECODER	M50747FP (IC1008)
	OSC	HT4683A (IC1029)
	DATA SELECT	74HC157M (IC1009 - IC1010, IC1022 - IC1024)
	A/D CONVERTER	M52678P (IC1011 - IC1012)
	DATA SELECT	74HC153M (IC1013 - IC1015 IC1019 - IC1021)
	D/A CONVERTER	M52679P (IC1025 - IC1027)
TIMER SUB	DIGITAL CONTROL	HD6074008F (IC2701)


YTJ (Y/CHROMA,JACK,F.S TUNING.DEMODULATOR,CHARACTER GENERATOR) P.C.B 003
002 AUDIO NR P.C.B
011 SENSOR P.C.B
502 CYLINDER MOTOR P.C.B
301 CAPSTAN MOTOR P.C.B
244 LOADING MOTOR P.C.B
006 TIMER SUB P.C.B
007 REGULATOR P.C.B
004 TIMER P.C.B
008 DIGITAL PROCESS P.C.B
005 HEAD PHONE JACK P.C.B
IC 100 VPS MODULE IC
SSA (SERVO,SYS.CON,AUDIO I/O,FM AUDIO,MOTOR DRIVE) P.C.B 001
PG451
PG551
PG452
PG552
PG453
PG553
PG454
PG554
PG1401
PG203
CNW203
PG2702
PG1402
CNW1403
PG2703
PG904
PG202
PG801
CNW801
PG2704
PG905
PG1504
PG1503
CNW1503
PG2705
PG903
CNW903
PG2706
PG511
CNW511
PG2707
PG512
CNW512
PG2708
PG901
PG602
CNW851
PG851
PG852
PG853
PG005
PG605
PG603
CNW603
PG854
PG902
CN2710 CN710
PG2711
CN701
PG2712
CN702
PG2713
CN703
PG2714
CN704
PG2715
CN705
PG2716
CN707
PG2701
CNW1003
PG1001
PG1002
CNW1002
PG1403
PG1003
CN770
PG770
PG201
PG205
PG1502
PG1501
MOTOR DRIVE
SYS CON
SERVO
AUDIO I/O
FM AUDIO
JACK
CHARACTER GENERATOR
Y/CHROMA
AC 220V 50Hz

YTJ (Y/CHROMA, JACK, F.S TUNING, DEMODULATOR, CHARACTER GENERATOR) P.C.B 003

PG551 — AUDIO I/O, FM AUDIO
PG552 — AUDIO I/O
PG553 — AUDIO I/O, SYS.CON, AUDIO I/O
PG554 — AUDIO I/O
PG901 — MOTOR DRIVE, SYS.CON
PG902 — SYS.CON

PG1401 — CHARACTER GENERATOR, F.S TUNING
PG203 CNW203 PG2702 — Y/CHROMA, F.S TUNING, CHARACTER GENERATOR
PG1402 CNW1403 PG2703 — F.S TUNING, CHARACTER GENERATOR
PG904 PG202 — SERVO, SYS.CON, Y/CHROMA
PG801 CNW801 PG2704 — F.S TUNING, DEMODULATOR, JACK
PG905 PG1504 — AUDIO I/O, SYS.CON, JACK
PG1503 CNW1503 PG2705 — JACK
PG903 CNW903 PG2706 — SYS.CON, SERVO
PG511 CNW511 PG2707 — AUDIO I/O
PG512 CNW512 PG2708 — AUDIO I/O, FM AUDIO, AUDIO I/O

CN2710 CN710 — KEY
PG2711 CN701
PG2712 CN702
PG2713 CN703
PG2714 CN704
PG2715 CN705
PG2716 CN707
PG2701 CNW1003

004 TIMER P.C.B

006 TIMER SUB P.C.B

IC 100 VPS MODULE IC

CN770 PG770 — PHONE (R), PHONE (L), GND
005 HEAD PHONE JACK P.C.B

PG602 CNW851 PG851 — SERVO, SYS.CON, SERVO
PG605 — SERVO
PG852
PG853
PG603 CNW603 PG854 — SERVO
007 REGULATOR P.C.B
AC 220V 50Hz

PG1001
PG1002 CNW1002 PG1403 — JACK, CHARACTER GENERATOR, JACK
PG1003
008 DIGITAL PROCESS P.C.B

MOD+B, G/I, A12V, VIDEO, AUDIO
130 RF CONVERTER

131 TUNER UNIT — AGC, IF, IF, AGC

131 IF UNIT

PG201 — Y/CHROMA
CN6
PG4 — VIDEO HEAD
014 PRE/REC AMP P.C.B

PG205 — Y/CHROMA
PG607 — SERVO
PG507 — FM AUDIO
CN7
PG202 — Y/CHROMA
PG507 — FM AUDIO
PG503 — AUDIO I/O — AUDIO REC/PB HEAD, AUDIO ERASE HEAD
PG1502 CNW514 PG514 — DEMODULATOR, JACK, AUDIO I/O
PG504 — AUDIO I/O — FULL ERASE HEAD
PG1501 CN513 — JACK, AUDIO I/O
PG604 — SERVO — CTL HEAD

001 SSA (SERVO, SYS.CON, AUDIO I/O, FM AUDIO, MOTOR DRIVE) P.C.B

TUNER UNIT

IF BLOCK FILTER

ANTENNA

LF1

D31

D20 RLS135

D22 RLS135

D23 RLS135

D24 RLS135

D25 ISS269

D25 (1/2)

D25 (1/2)

D6 IT32

D5 ISV161

TR4 3SK153

D7 IT32

D8 ISV161

D9 ISV161

D10 IT32

D26 RLS135

D27 RLS135

D28 RLS135

TR201 3SK151

TP4

TP5

IFT

LC201 3.3μ

TR101

D101 (1/2) DAP202K

D101 (1/2) DAP202K

D201 RLS135

D29 RLS135

D16 ISV161

D15 ISV161

D202 IT32

D17 ISV161

D18 ISV161

D13 ISV161

D14 ISV161

D12 ISV161

D11 ISV161

TR5 3SK153

D203 IT32

TR203 2SC2735

D301 IT32

D19 ISV161

D302 ISV161

D303 ISV161

TR301 2SC2735

TR102 DTA114YK

TR103 DTA114YK

TR1 3SK146

D01 MA321

D02 MA321

D03 MA321

D04 MA321

TR2 2SC3547

TR3 2SC3547

D102 RLZ6.2B

TR6 2SC2736

TC1

TC2

TC3

LP1

LP2

LU1

LU2

LU4

LU7

LU8

LU9

LU10

LC1

LC2

LC3

L01

L02

L03

Ld1

Lq1

Ld2

Lq2

Li1

Li2

Li3

La1

La2

La3

La4

La6

La7

La8

To TUNER UNIT

To Y/J (F.S TUNING)

To F.S TUNING

To IF UNIT

IF

BM

BL

BH

AGC

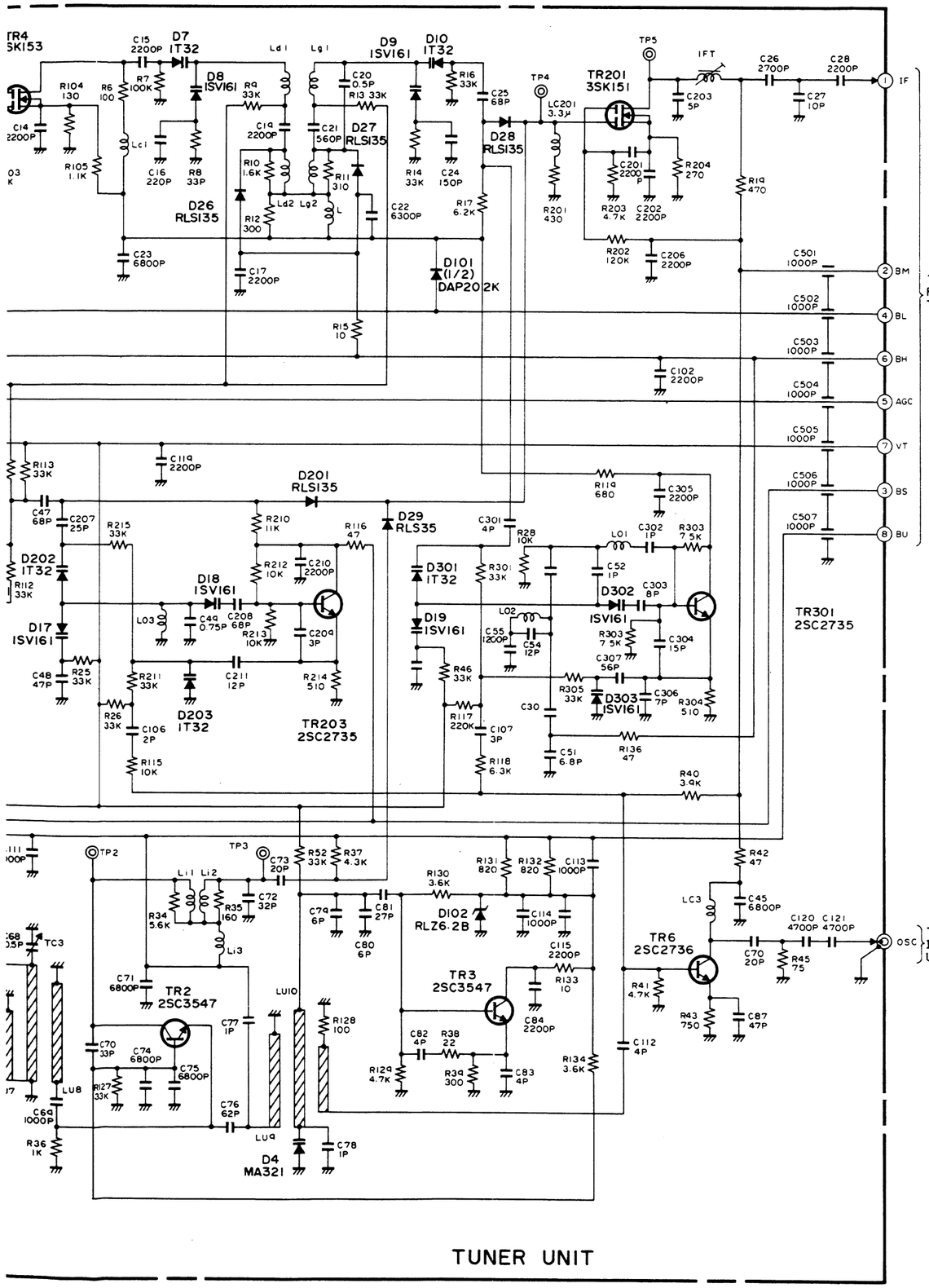
VT

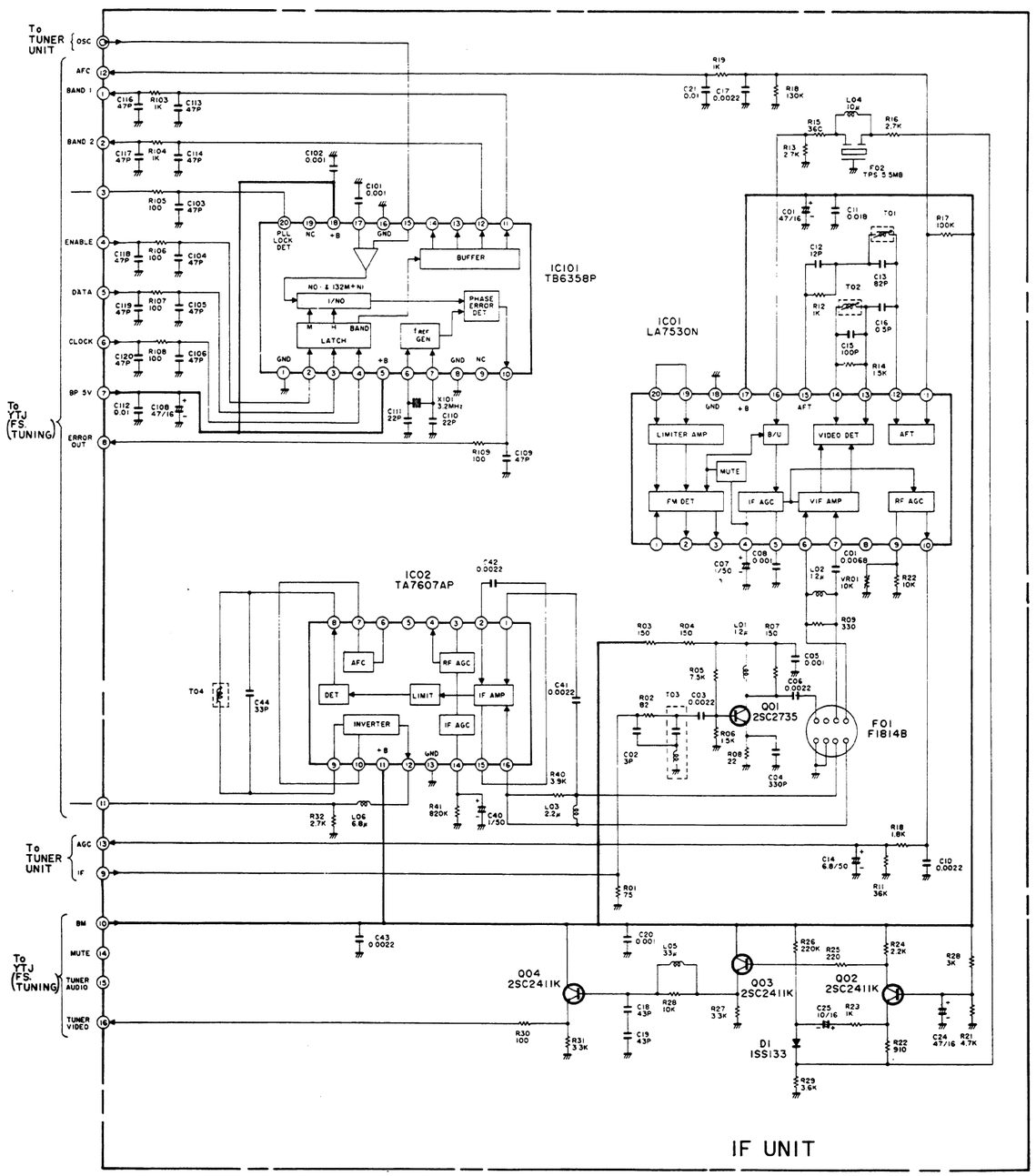
BS

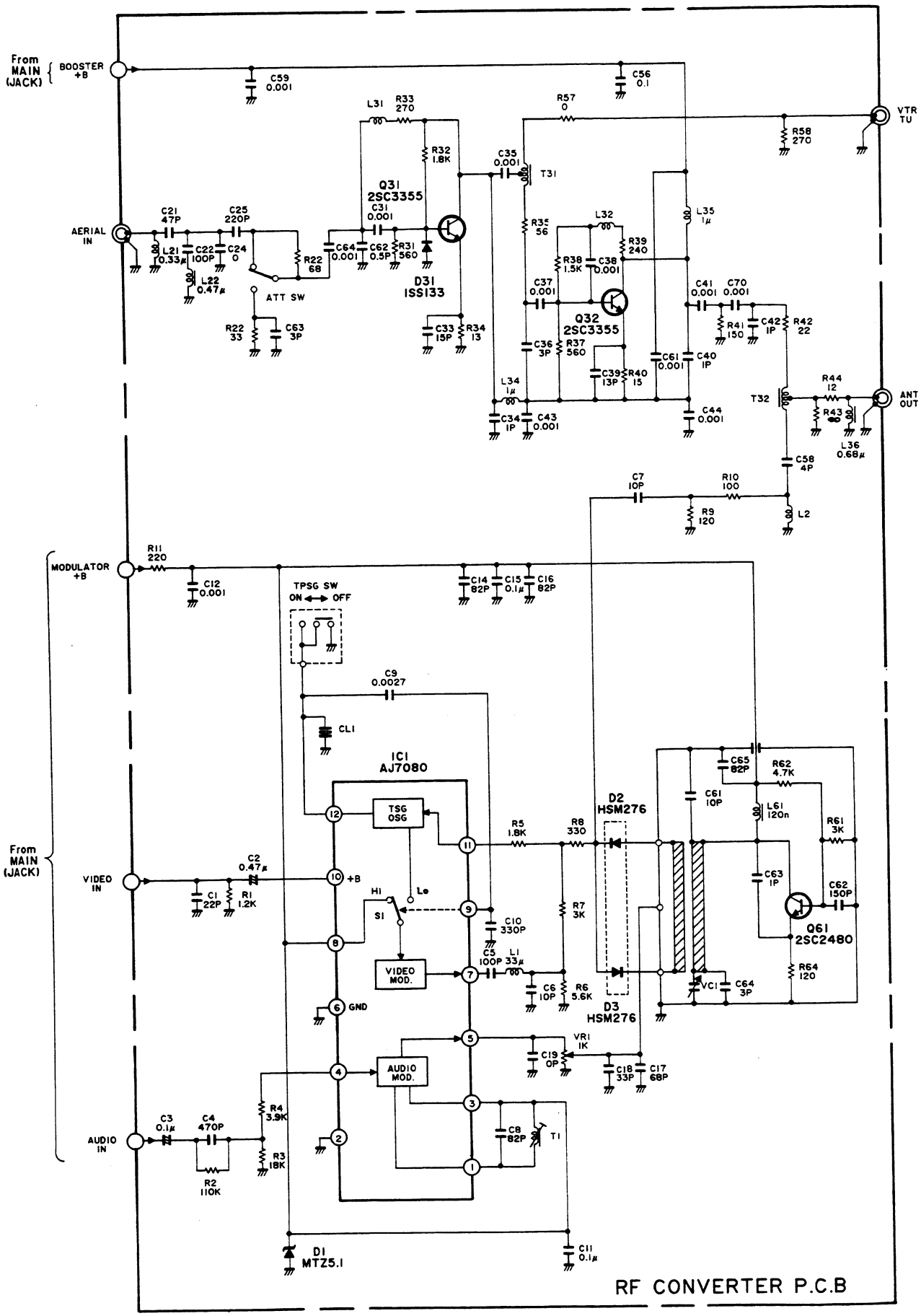
BU

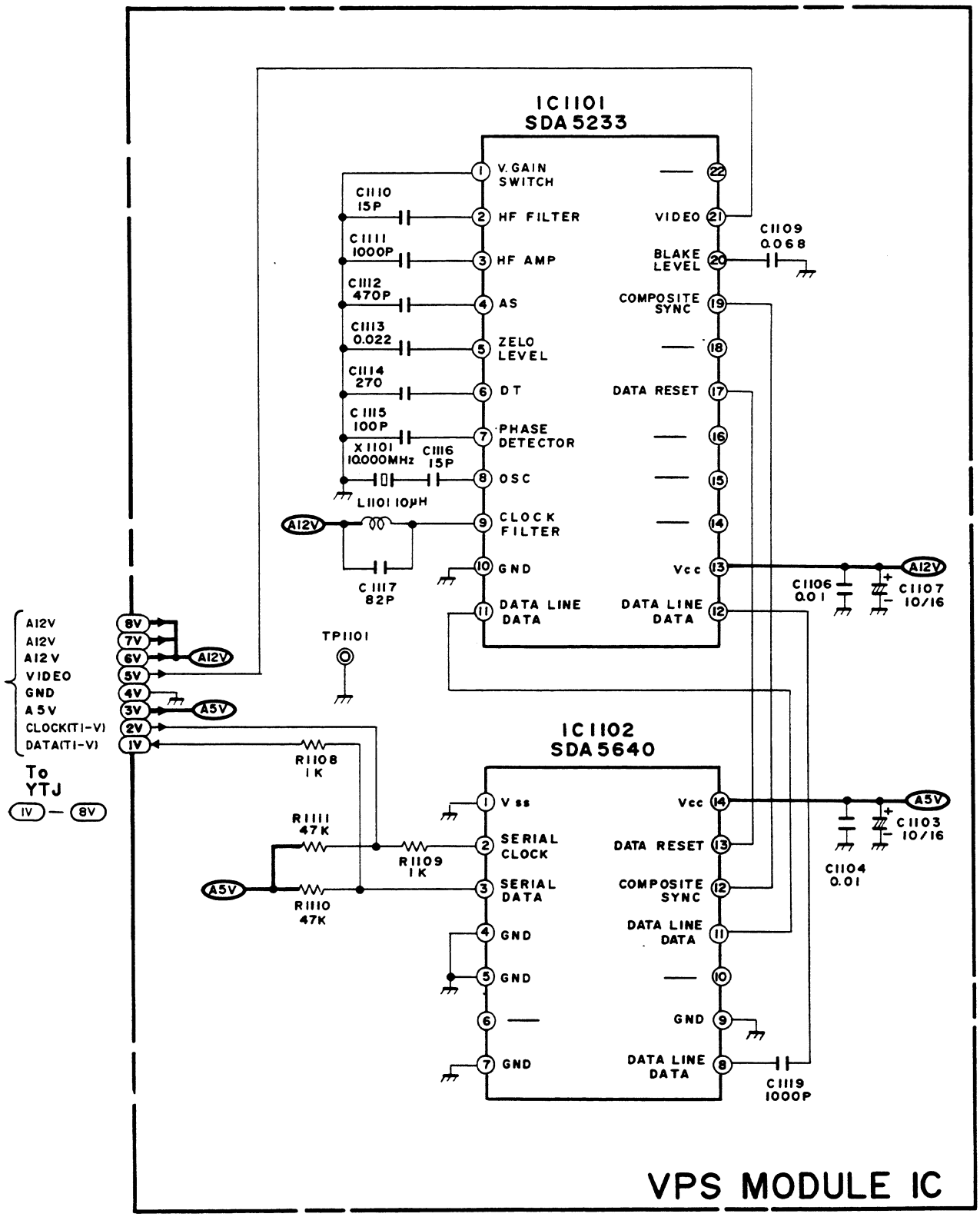
OSC

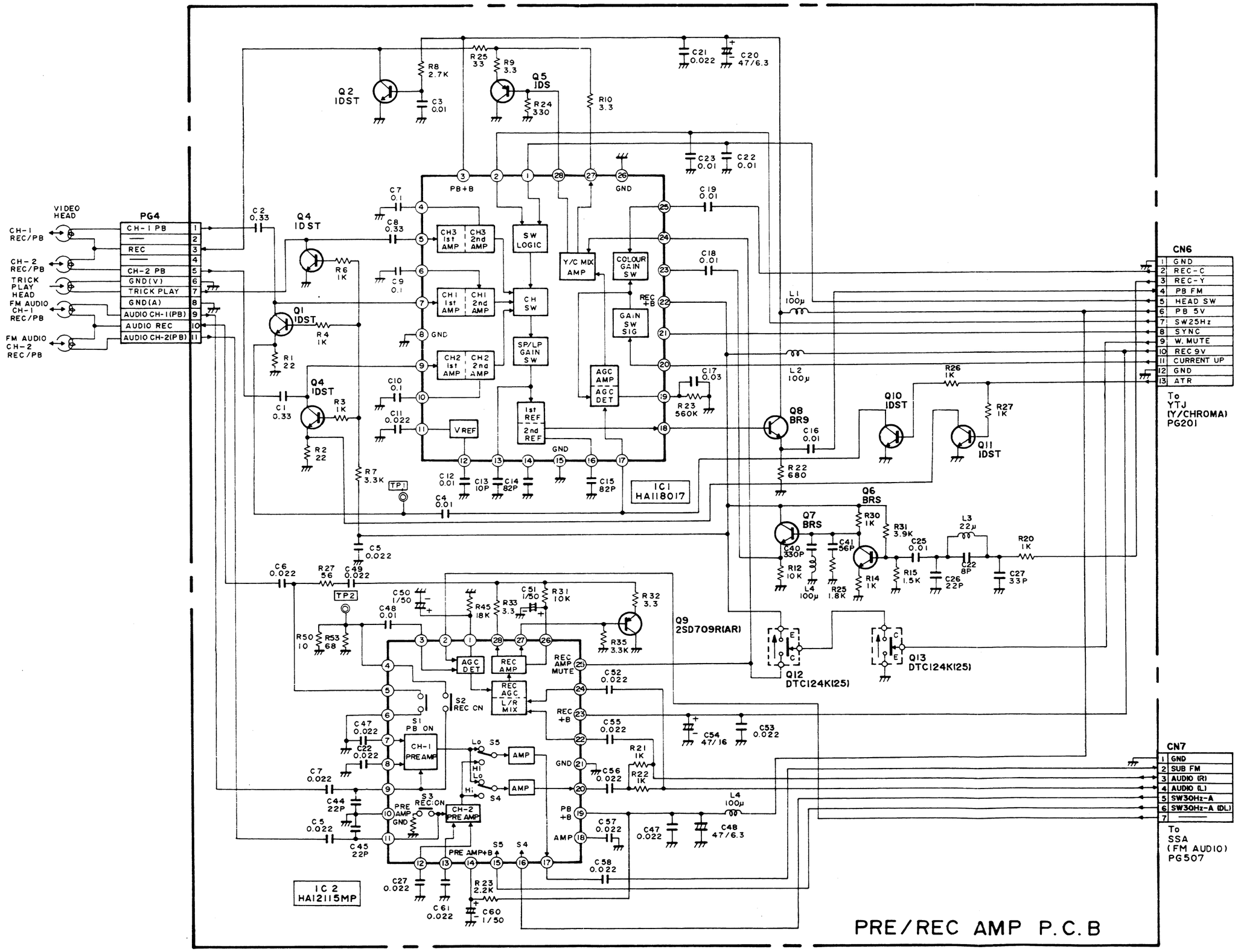
TUNER UNIT

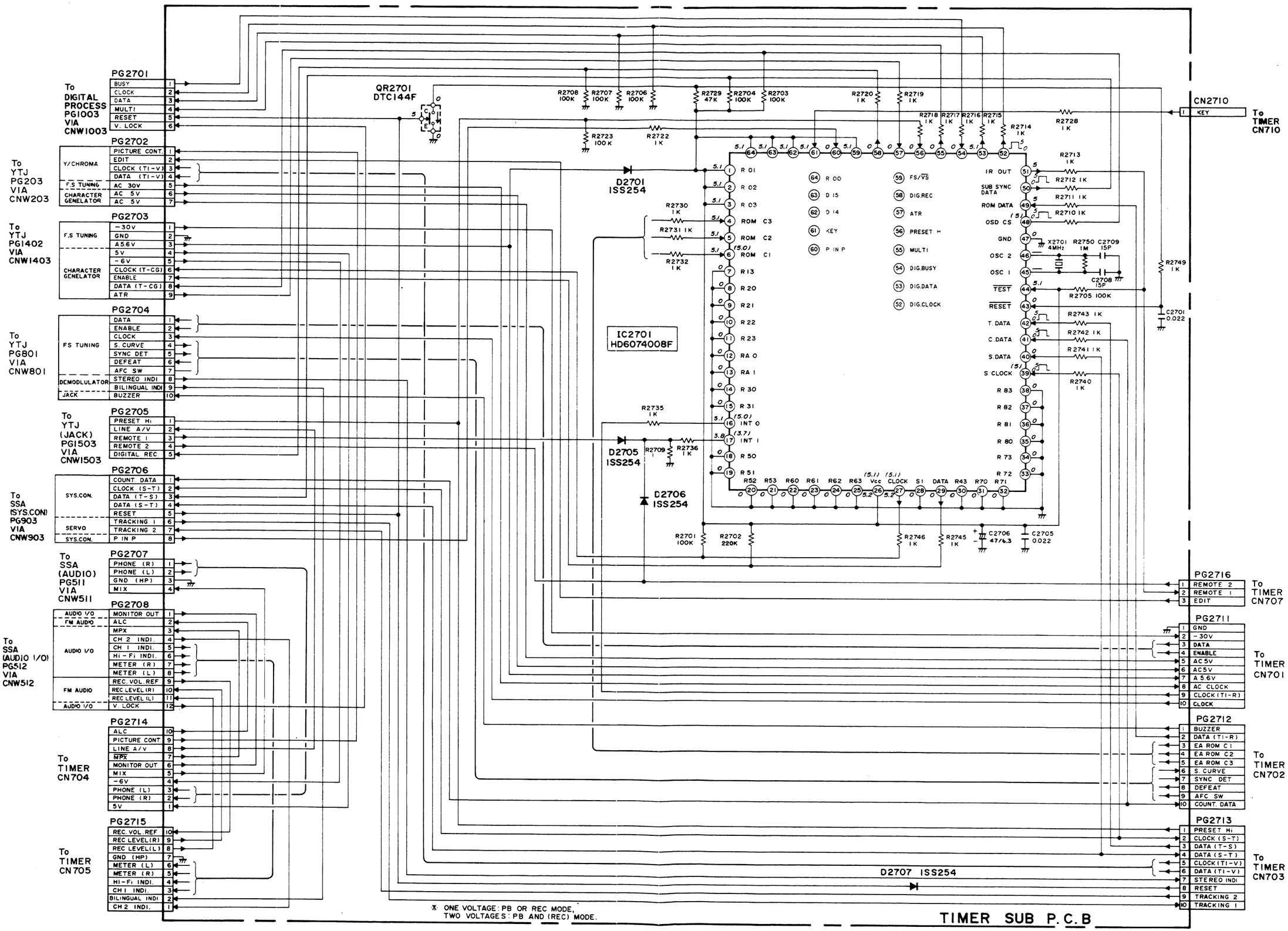

TR4
3K153
C15 2200P
D7 IT32
D8 1SV161
Ld1
Lg1
D9 1SV161
D10 IT32
TP5
IFT
C26 2700P
C28 2200P
1 IF
R104 130
R6 100
R7 100K
R9 33K
C20 0.5P
R13 33K
TP4
LC201 3.3μ
TR201 3SK151
C203 5P
R204 270
C14 2200P
R105 1.1K
Lc1
C16 220P
R8 33P
C19 2200P
C21 560P
D27 RLS135
R14 33K
C24 150P
C25 68P
D28 RLS135
R19 470
R10 1.6K
R11 310
R12 300
Ld2
Lg2
L
C22 6300P
R17 6.2K
R201 430
R203 4.7K
C202 2200P
R202 120K
C206 2200P
C23 6800P
C17 2200P
D101 (1/2) DAP202K
C501 1000P
2 BM
To F.S TUNING
R15 10
C502 1000P
4 BL
C503 1000P
6 BH
C102 2200P
C504 1000P
5 AGC
C505 1000P
7 VT
C119 2200P
C506 1000P
3 BS
R113 33K
D201 RLS135
R119 680
C305 2200P
C47 68P
C207 25P
R215 33K
R210 11K
R116 47
D29 RLS35
C301 4P
R28 10K
C302 1P
R303 7.5K
C507 1000P
8 BU
D202 IT32
R112 33K
R212 10K
C210 2200P
D18 1SV161
C52 1P
D302 1SV161
C303 8P
TR301 2SC2735
D17 1SV161
L03
C49 0.75P
C208 68P
R213 10K
C209 3P
D301 IT32
R301 33K
L01
L02
C55 1200P
C54 12P
R303 7.5K
C304 15P
C48 47P
R25 33K
C211 12P
R214 510
D19 1SV161
C307 56P
R46 33K
R305 33K
D303 1SV161
C306 7P
R304 510
R26 33K
C106 2P
D203 IT32
TR203 2SC2735
C30
R117 220K
C107 3P
R136 47
R115 10K
C51 6.8P
R118 6.3K
R40 3.9K
TP2
TP3
C73 20P
R52 33K
R37 4.3K
R130 3.6K
R131 820
R132 820
C113 1000P
L11
L12
R34 5.6K
R35 160
C72 32P
C79 6P
C81 27P
D102 RLZ6.2B
C114 1000P
LC3
R42 47
C45 6800P
C120 4700P
C121 4700P
TR6 2SC2736
To IF UNIT
OSC
C115 2200P
TR3 2SC3547
R133 10
C71 6800P
TR2 2SC3547
C77 1P
C84 2200P
C70 33P
C74 6800P
C75 6800P
C82 4P
R38 22
R41 4.7K
C112 4P
R43 750
C87 47P
R127 33K
R129 4.7K
R39 300
C83 4P
R134 3.6K
TC3
LU8
LU10
R128 100
C69 1000P
C76 62P
LU9
C78 1P
R36 1K
D4 MA321
TUNER UNIT


To TUNER UNIT
OSC
AFC
BAND 1
BAND 2
ENABLE
DATA
CLOCK
BP 5V
ERROR OUT
To YTJ (FS TUNING)
IC101 TB6358P
PLL LOCK DET
NC
+B
GND
BUFFER
NO · & 132M+NI
I/NO
LATCH
BAND
PHASE ERROR DET
fref GEN
X101 3.2MHz
IC01 LA7530N
LIMITER AMP
B/U
VIDEO DET
AFT
MUTE
FM DET
IF AGC
VIF AMP
RF AGC
IC02 TA7607AP
AFC
RF AGC
DET
LIMIT
IF AMP
INVERTER
IF AGC
F02 TPS 5.5MB
Q01 2SC2735
F01 F1814B
To TUNER UNIT
AGC
IF
BM
MUTE
TUNER AUDIO
TUNER VIDEO
To YTJ (FS TUNING)
Q04 2SC2411K
Q03 2SC2411K
Q02 2SC2411K
D1 1SS133
IF UNIT

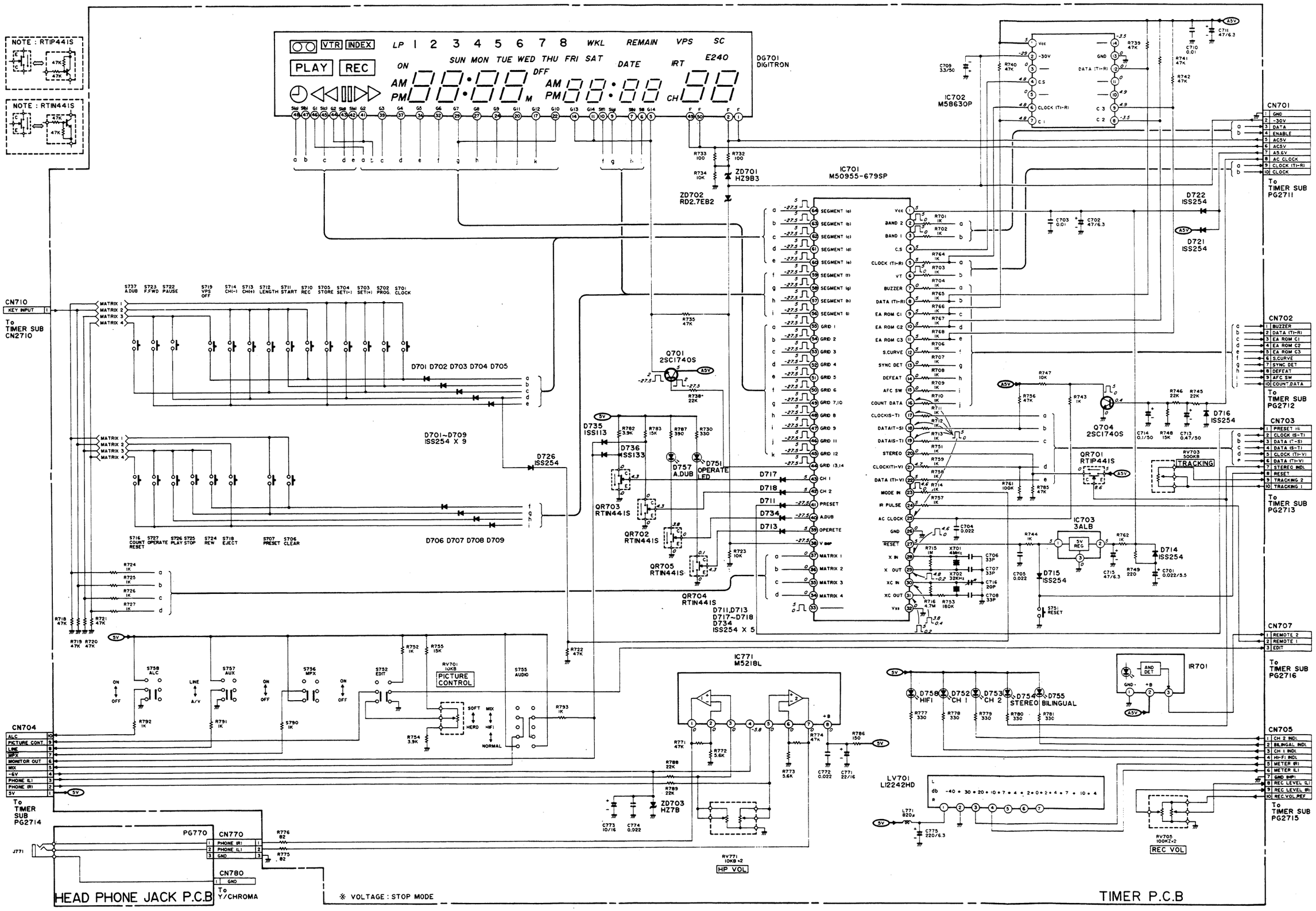

From MAIN (JACK)
BOOSTER +B
C59 0.001
C56 0.1
L31
R33 270
R57 0
VTR TU
R58 270
R32 1.8K
C35 0.001
T31
Q31 2SC3355
C31 0.001
AERIAL IN
C21 47P
C25 220P
L21 0.33μ
C22 100P
C24 0
L22 0.47μ
ATT SW
R22 68
R22 33
C63 3P
C64 0.001
C62 0.5P
R31 560
D31 1SS133
C33 15P
R34 13
R35 56
L32
R38 1.5K
C38 0.001
R39 240
L35 1μ
C37 0.001
Q32 2SC3355
C41 0.001
C70 0.001
R41 150
C42 1P
R42 22
C36 3P
R37 560
C39 13P
R40 15
C61 0.001
C40 1P
L34 1μ
C34 1P
C43 0.001
C44 0.001
T32
R44 12
R43
ANT OUT
L36 0.68μ
C58 4P
C7 10P
R10 100
R9 120
L2
MODULATOR +B
R11 220
C12 0.001
TPSG SW ON ↔ OFF
C14 82P
C15 0.1μ
C16 82P
C9 0.0027
CL1
IC1 AJ7080
TSG OSG
VIDEO MOD.
AUDIO MOD.
GND
From MAIN (JACK)
VIDEO IN
C2 0.47μ
C1 22P
R1 1.2K
+B
HI
Lo
S1
C10 330P
C5 100P
L1 33μ
C6 10P
R6 5.6K
R5 1.8K
R8 330
R7 3K
D2 HSM276
D3 HSM276
C65 82P
R62 4.7K
C61 10P
L61 120n
R61 3K
C63 1P
C62 150P
Q61 2SC2480
R64 120
VC1
C64 3P
VR1 1K
C19 0P
C18 33P
C17 68P
AUDIO IN
C3 0.1μ
C4 470P
R4 3.9K
R3 18K
R2 110K
C8 82P
T1
D1 MTZ5.1
C11 0.1μ
RF CONVERTER P.C.B


IC1101
SDA5233
V. GAIN SWITCH
HF FILTER
HF AMP
AS
ZELO LEVEL
DT
PHASE DETECTOR
OSC
CLOCK FILTER
GND
DATA LINE DATA
VIDEO
BLAKE LEVEL
COMPOSITE SYNC
DATA RESET
Vcc
DATA LINE DATA
C1110 15P
C1111 1000P
C1112 470P
C1113 0.022
C1114 270
C1115 100P
X1101 10.000MHz
C1116 15P
L1101 10μH
C1117 82P
C1109 0.068
C1106 0.01
C1107 10/16
A12V
A5V
TP1101
IC1102
SDA5640
Vss
SERIAL CLOCK
SERIAL DATA
GND
GND
GND
Vcc
DATA RESET
COMPOSITE SYNC
DATA LINE DATA
GND
DATA LINE DATA
R1108 1K
R1111 47K
R1109 1K
R1110 47K
C1104 0.01
C1103 10/16
C1119 1000P
A12V
A12V
A12V
VIDEO
GND
A5V
CLOCK(T1-V)
DATA(T1-V)
8V
7V
6V
5V
4V
3V
2V
1V
To YTJ
1V — 8V
VPS MODULE IC

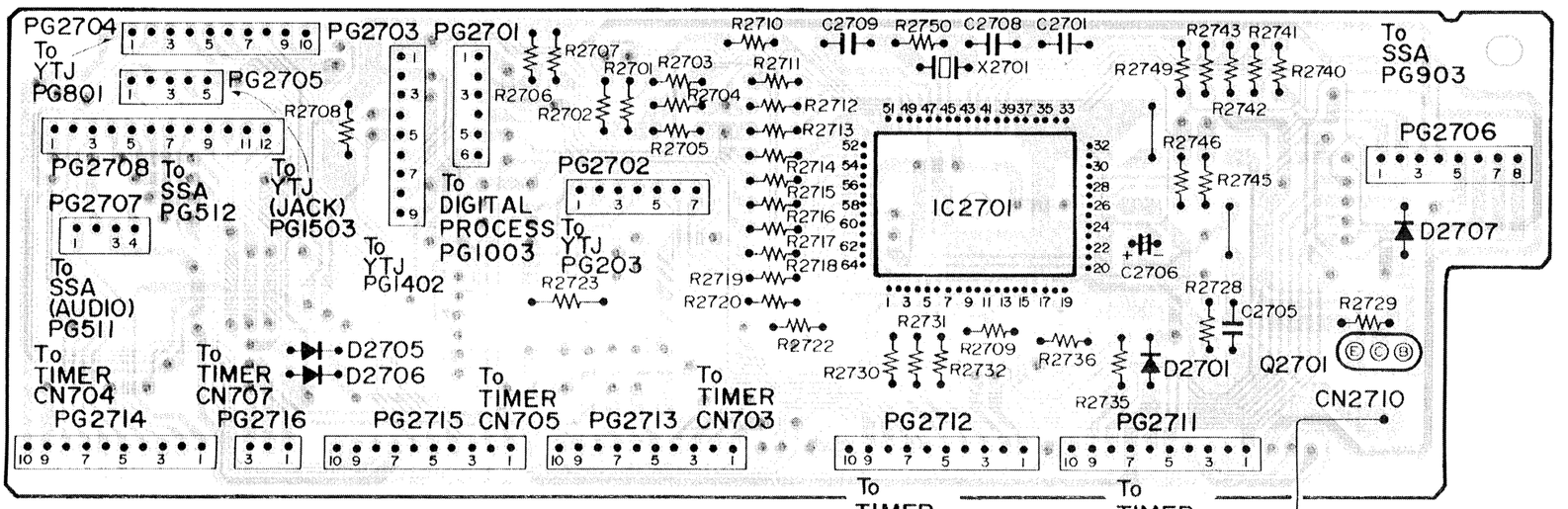

PG4
VIDEO HEAD
CH-1 REC/PB
CH-2 REC/PB
TRICK PLAY HEAD
FM AUDIO CH-1 REC/PB
FM AUDIO CH-2 REC/PB
CH-1 PB
REC
CH-2 PB
GND(V)
TRICK PLAY
GND(A)
AUDIO CH-1(PB)
AUDIO REC
AUDIO CH-2(PB)
Q1 IDST
Q2 IDST
Q4 IDST
Q5 IDS
Q8 BR9
Q10 IDST
Q11 IDST
Q6 BRS
Q7 BRS
Q9 2SD709R(AR)
Q12 DTC124K(25)
Q13 DTC124K(25)
IC1 HA118017
IC 2 HA12115MP
PB+B
GND
CH3 1st AMP
CH3 2nd AMP
CH1 1st AMP
CH1 2nd AMP
CH2 1st AMP
CH2 2nd AMP
SW LOGIC
CH SW
SP/LP GAIN SW
Y/C MIX AMP
COLOUR GAIN SW
GAIN SW SIG
AGC AMP
AGC DET
1st REF
2nd REF
VREF
REC +B
PB +B
REC AMP
REC AGC
L/R MIX
REC AMP MUTE
CH-1 PRE AMP
CH-2 PRE AMP
PRE AMP+B
S1 PB ON
S2 REC ON
S3 REC:ON
S4
S5
TP1
TP2
CN6
1 GND
2 REC-C
3 REC-Y
4 PB FM
5 HEAD SW
6 PB 5V
7 SW25Hz
8 SYNC
9 W. MUTE
10 REC 9V
11 CURRENT UP
12 GND
13 ATR
To YTJ (Y/CHROMA) PG201
CN7
1 GND
2 SUB FM
3 AUDIO (R)
4 AUDIO (L)
5 SW30Hz-A
6 SW30Hz-A (DL)
7 ——
To SSA (FM AUDIO) PG507
PRE/REC AMP P.C.B

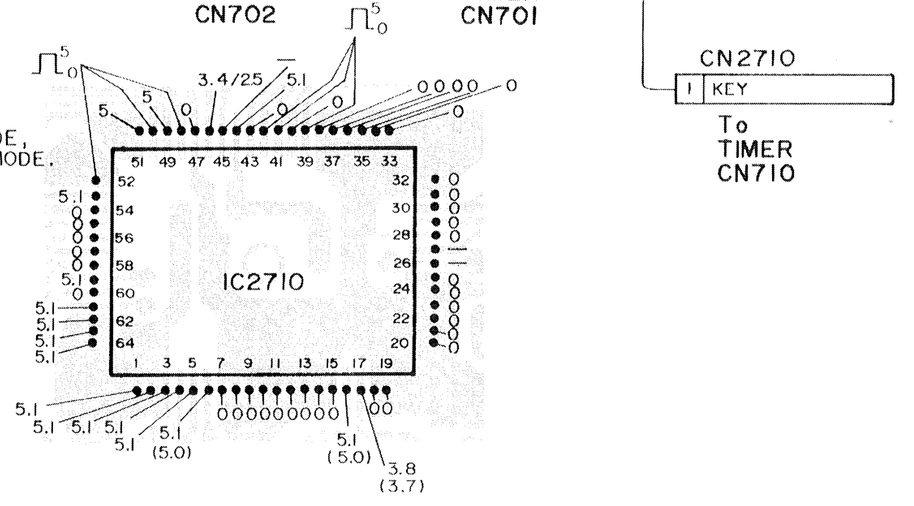


※ ONE VOLTAGE: PB OR REC MODE,
TWO VOLTAGES: PB AND (REC) MODE.


NOTE : RTIP441S
NOTE : RTIN441S
VTR INDEX
PLAY REC
LP 1 2 3 4 5 6 7 8 WKL REMAIN VPS SC
ON SUN MON TUE WED THU FRI SAT DATE IRT E240
AM PM 88:88 M DFF AM PM 88:88 CH 88
DG701 DIGITRON
IC702 M58630P
IC701 M50955-679SP
ZD701 HZ9B3
ZD702 RD2.7EB2
CN701
To TIMER SUB PG2711
CN702
To TIMER SUB PG2712
CN703
To TIMER SUB PG2713
CN707
To TIMER SUB PG2716
CN705
To TIMER SUB PG2715
CN710 KEY INPUT
To TIMER SUB CN2710
CN704
To TIMER SUB PG2714
D701 D702 D703 D704 D705
D701~D709 ISS254 X 9
D706 D707 D708 D709
D711,D713 D717~D718 D734 ISS254 X 5
Q701 2SC1740S
Q704 2SC1740S
QR701 RTIP441S
QR702 RTIN441S
QR703 RTIN441S
QR704 RTIN441S
QR705 RTIN441S
D722 ISS254
D721 ISS254
D716 ISS254
D714 ISS254
D715 ISS254
D735 ISS113
D736 ISS133
D757 A.DUB
D751 OPERATE LED
IC771 M5218L
IR701
D758 HIFI
D752 CH 1
D753 CH 2
D754 STEREO
D755 BILINGUAL
LV701 L12242HD
TRACKING
PICTURE CONTROL
REC VOL
HP VOL
RESET
HEAD PHONE JACK P.C.B
PG770
CN770
CN780
To Y/CHROMA
※ VOLTAGE : STOP MODE
TIMER P.C.B

TIMER SUB P.C.B.



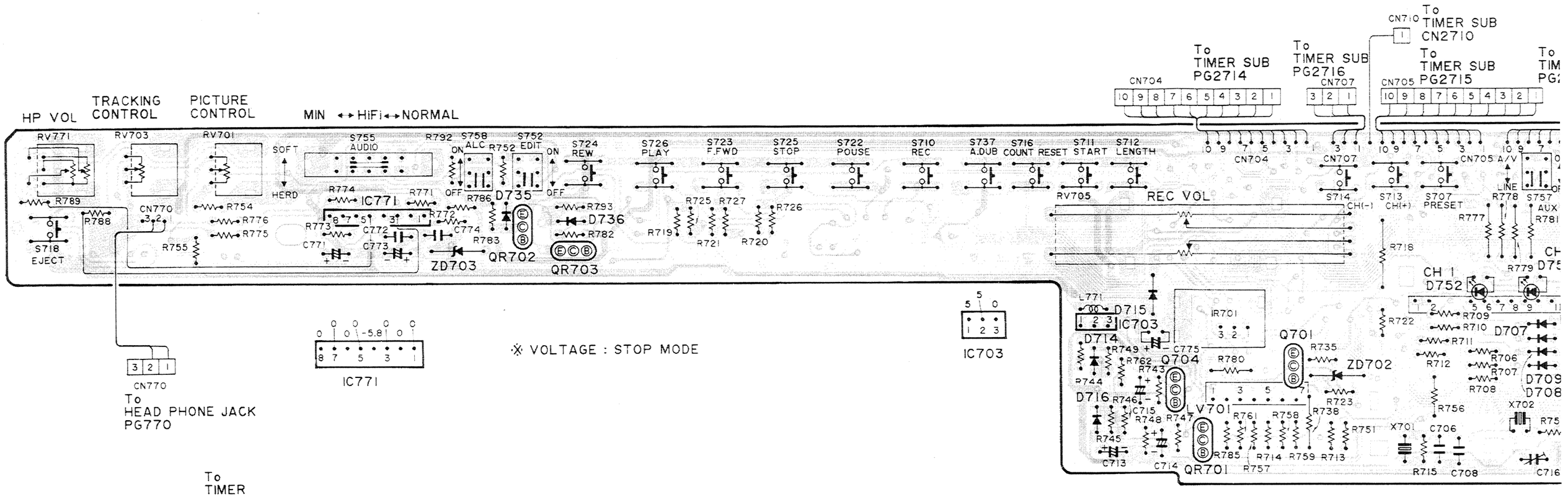


※ ONE VOLTAGE PB OR REC MODE,
TWO VOLTAGES PB AND (REC) MODE.

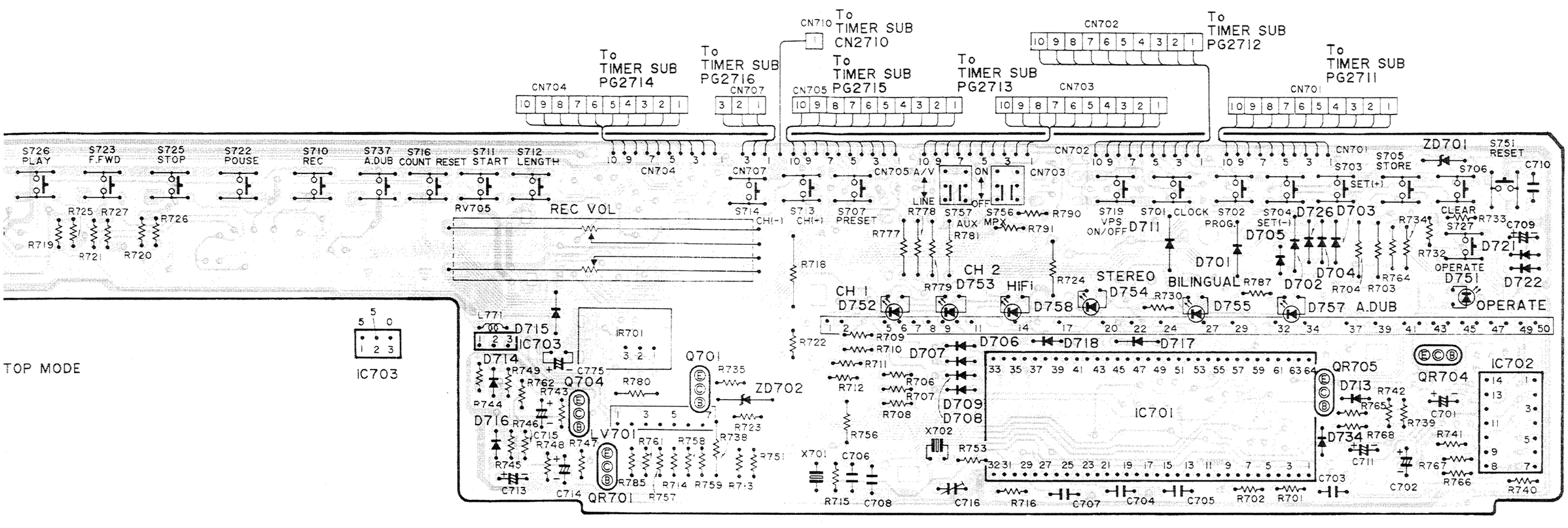
Solder Side.

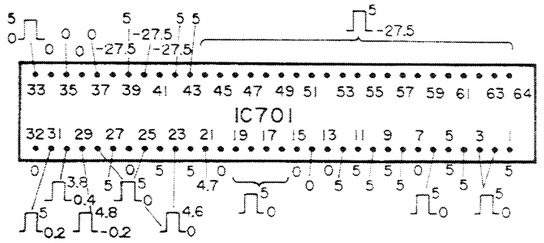
Component Side.

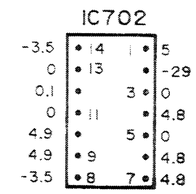
Through Hole.

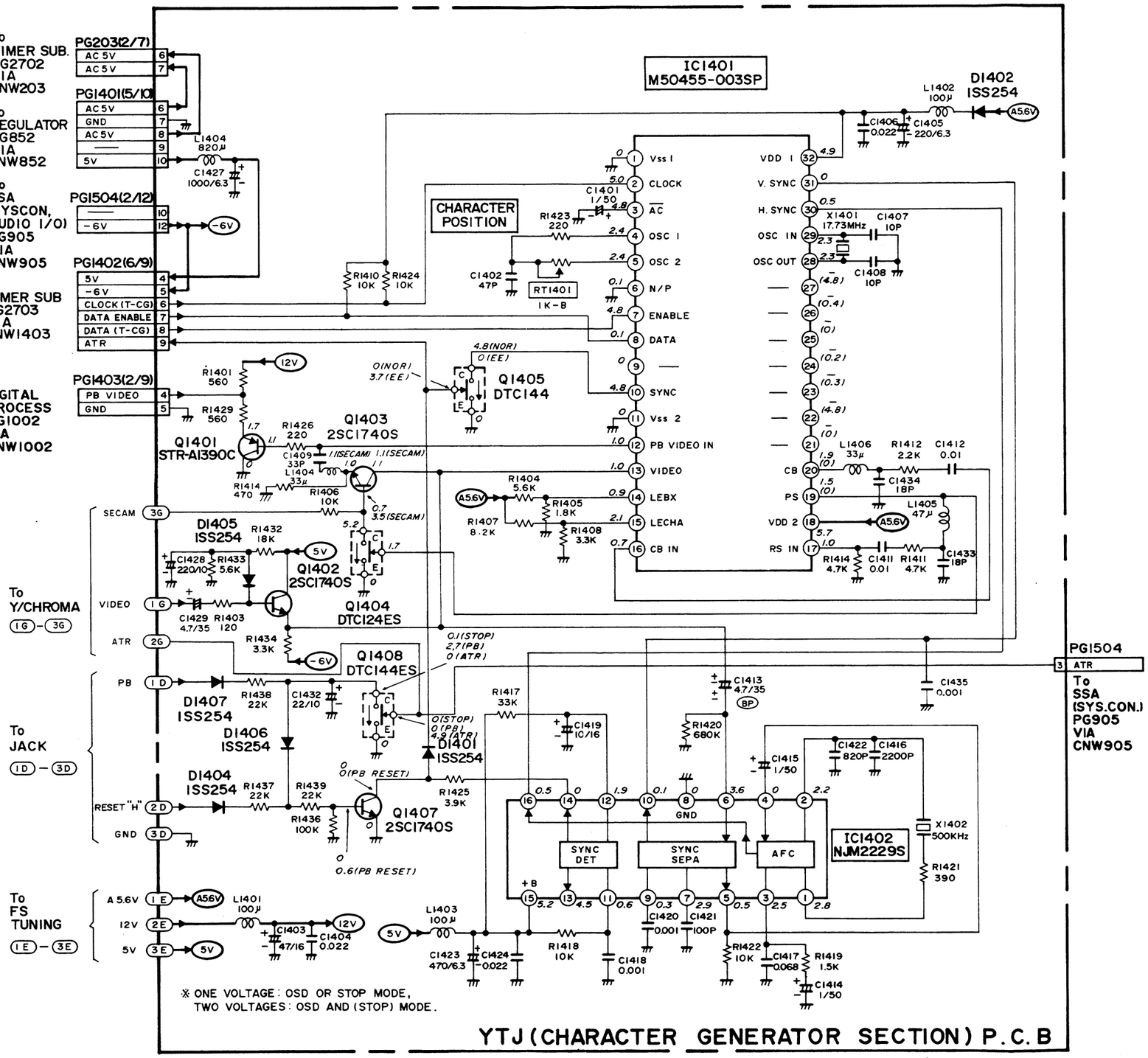

HP VOL
TRACKING CONTROL
PICTURE CONTROL
MIN ↔HiFi↔NORMAL
RV771
RV703
RV701
SOFT
HERD
S755 AUDIO
R792
S758 ALC
R752
S752 EDIT
S724 REW
S726 PLAY
S723 F.FWD
S725 STOP
S722 POUSE
S710 REC
S737 A.DUB
S716 COUNT RESET
S711 START
S712 LENGTH
ON
OFF
R789
R788
CN770
S718 EJECT
R754
R776
R775
R755
R774
IC771
R771
R772
R773
C772
C774
C771
C773
R783
R786
D735
ZD703
QR702
R793
D736
R782
QR703
R719
R725
R727
R721
R720
R726
RV705
REC VOL
CN704
CN707
CN705
CN710
To TIMER SUB CN2710
To TIMER SUB PG2714
To TIMER SUB PG2716
To TIMER SUB PG2715
S714 CH(-)
S713 CH(+)
S707 PRESET
A/V LINE
S757 AUX
R778
R777
R781
R718
CH 1 D752
R779
D75
R722
R709
R710
R711
D707
R712
R706
R707
R708
D709
D708
X702
R756
R75
L771
D715
IC703
D714
R744
R749
R762
C775
Q704
R743
R780
Q701
R735
ZD702
R723
D716
R746
C715
R748
R747
LV701
R761
R758
R738
R751
R745
C713
C714
QR701
R785
R714
R759
R713
R757
X701
C706
C715
C708
C716
IR701
IC703
CN770
To HEAD PHONE JACK PG770
IC771
※ VOLTAGE : STOP MODE
To TIMER CN770
PG770
CN780 To Y/CHROMA
J771 H.P JACK
HEAD PHONE JACK P.C.B
Solder Side
Component Side
Through Hole.

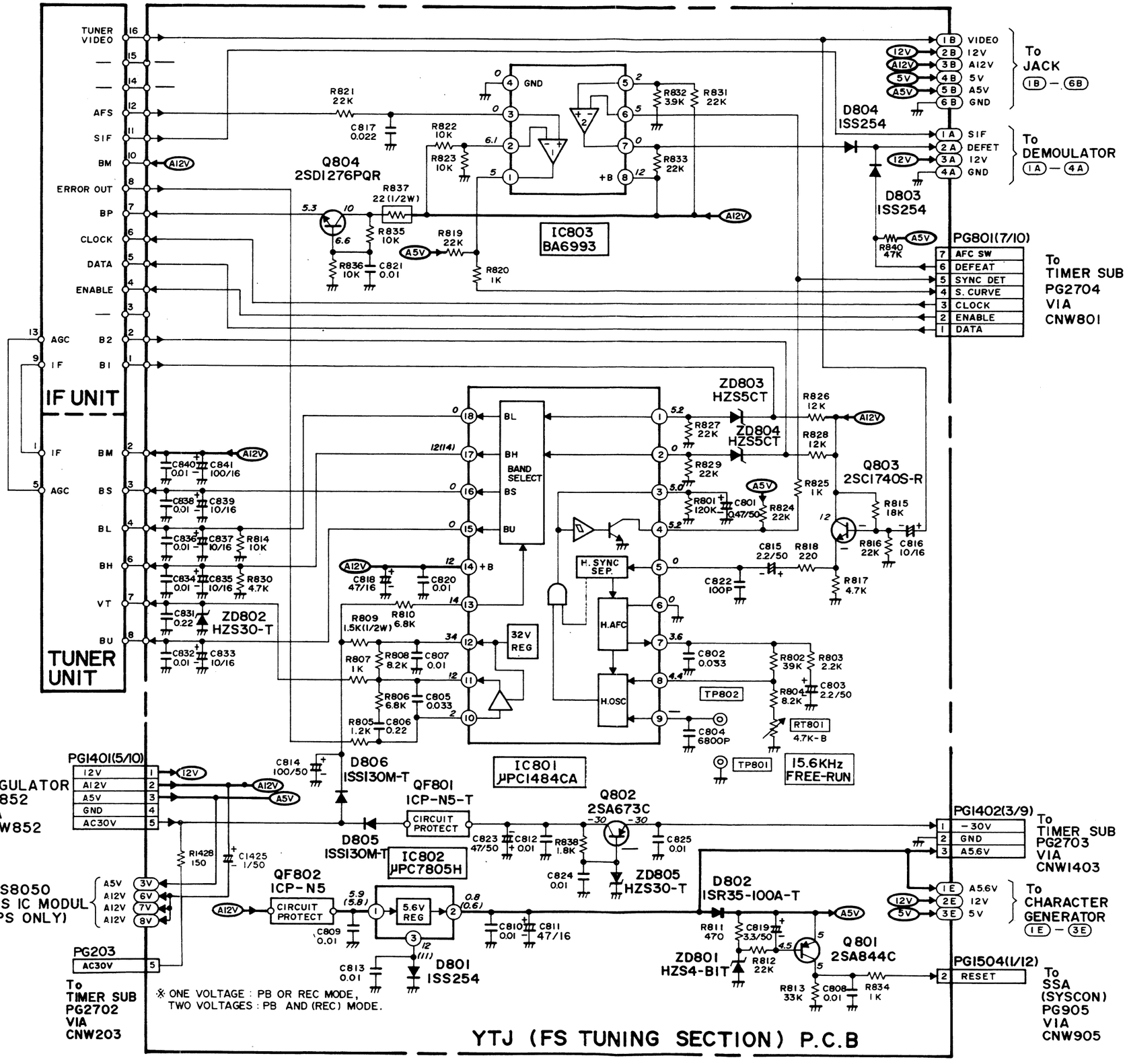
TIMER/OPERATION SWITCH P.C.B

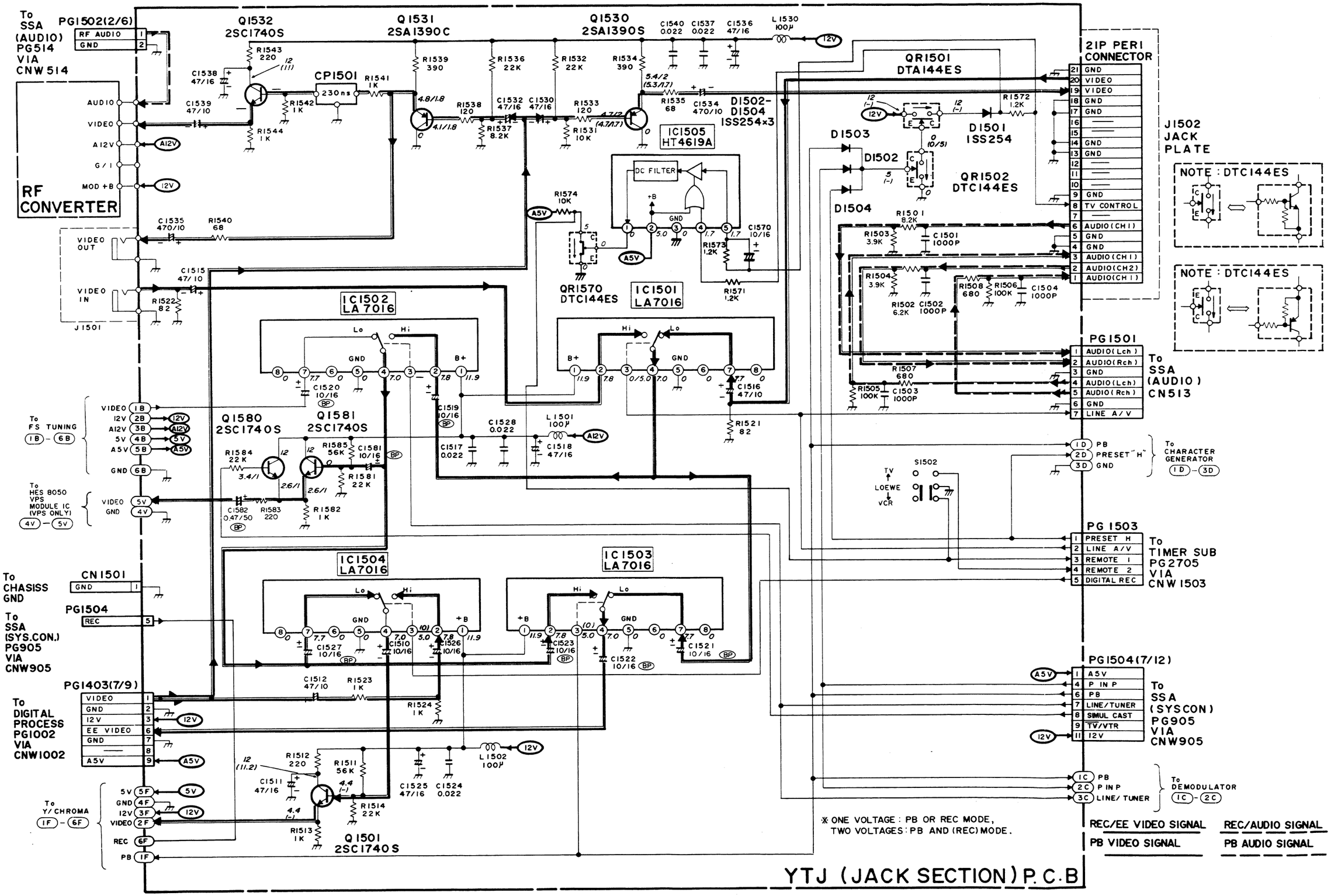







To TIMER SUB. PG2702 VIA CNW203
PG2031(2/7)
AC 5V 6
AC 5V 7
To REGULATOR PG852 VIA CNW852
PG1401(5/10)
AC 5V 6
GND 7
AC 5V 8
— 9
5V 10
L1404 820µ
C1427 1000/6.3
To SSA (SYSCON, AUDIO I/O) PG905 VIA CNW905
PG1504(2/12)
— 10
-6V 12
-6V
To TIMER SUB PG2703 VIA CNW1403
PG1402(6/9)
5V 4
-6V 5
CLOCK (T-CG) 6
DATA ENABLE 7
DATA (T-CG) 8
ATR 9
To DIGITAL PROCESS PG1002 VIA CNW1002
PG1403(2/9)
PB VIDEO 4
GND 5
IC1401 M50455-003SP
D1402 ISS254
L1402 100µ
A5.6V
C1406 0.022
C1405 220/6.3
CHARACTER POSITION
R1410 10K
R1424 10K
C1401 1/50
R1423 220
C1402 47P
RT1401 1K-B
1 Vss 1
2 CLOCK
3 AC
4 OSC 1
5 OSC 2
6 N/P
7 ENABLE
8 DATA
9 —
10 SYNC
11 Vss 2
12 PB VIDEO IN
13 VIDEO
14 LEBX
15 LECHA
16 CB IN
32 VDD 1
31 V. SYNC
30 H. SYNC
29 OSC IN
28 OSC OUT
27 —
26 —
25 —
24 —
23 —
22 —
21 —
20 CB
19 PS
18 VDD 2
17 RS IN
X1401 17.73MHz
C1407 10P
C1408 10P
L1406 33µ
R1412 2.2K
C1412 0.01
C1434 18P
L1405 47µ
C1433 18P
R1414 4.7K
C1411 0.01
R1411 4.7K
R1401 560
R1429 560
12V
Q1401 STR-A1390C
R1426 220
Q1403 2SC1740S
C1409 33P
L1404 33µ
R1414 470
R1406 10K
Q1405 DTC144
R1404 5.6K
R1405 1.8K
R1407 8.2K
R1408 3.3K
SECAM 3G
D1405 ISS254
R1432 18K
C1428 220/10
R1433 5.6K
5V
Q1402 2SC1740S
Q1404 DTC124ES
To Y/CHROMA 1G-3G
VIDEO 1G
C1429 4.7/35
R1403 120
ATR 2G
R1434 3.3K
-6V
Q1408 DTC144ES
PB 1D
D1407 ISS254
R1438 22K
C1432 22/10
D1406 ISS254
D1404 ISS254
R1437 22K
R1439 22K
R1436 100K
RESET "H" 2D
GND 3D
Q1407 2SC1740S
R1417 33K
D1401 ISS254
R1425 3.9K
To JACK 1D-3D
To FS TUNING 1E-3E
A 5.6V 1E
12V 2E
5V 3E
L1401 100µ
C1403 47/16
C1404 0.022
L1403 100µ
C1423 470/6.3
C1424 0.022
R1418 10K
C1418 0.001
C1419 10/16
C1413 4.7/35 (8P)
R1420 680K
C1435 0.001
C1415 1/50
C1422 820P
C1416 2200P
SYNC DET
SYNC SEPA
AFC
GND
+B
IC1402 NJM2229S
X1402 500KHz
R1421 390
C1420 0.001
C1421 100P
R1422 10K
C1417 0.068
R1419 1.5K
C1414 1/50
PG1504 3 ATR
To SSA (SYS.CON.) PG905 VIA CNW905
※ ONE VOLTAGE: OSD OR STOP MODE,
TWO VOLTAGES: OSD AND (STOP) MODE.
YTJ (CHARACTER GENERATOR SECTION) P.C.B

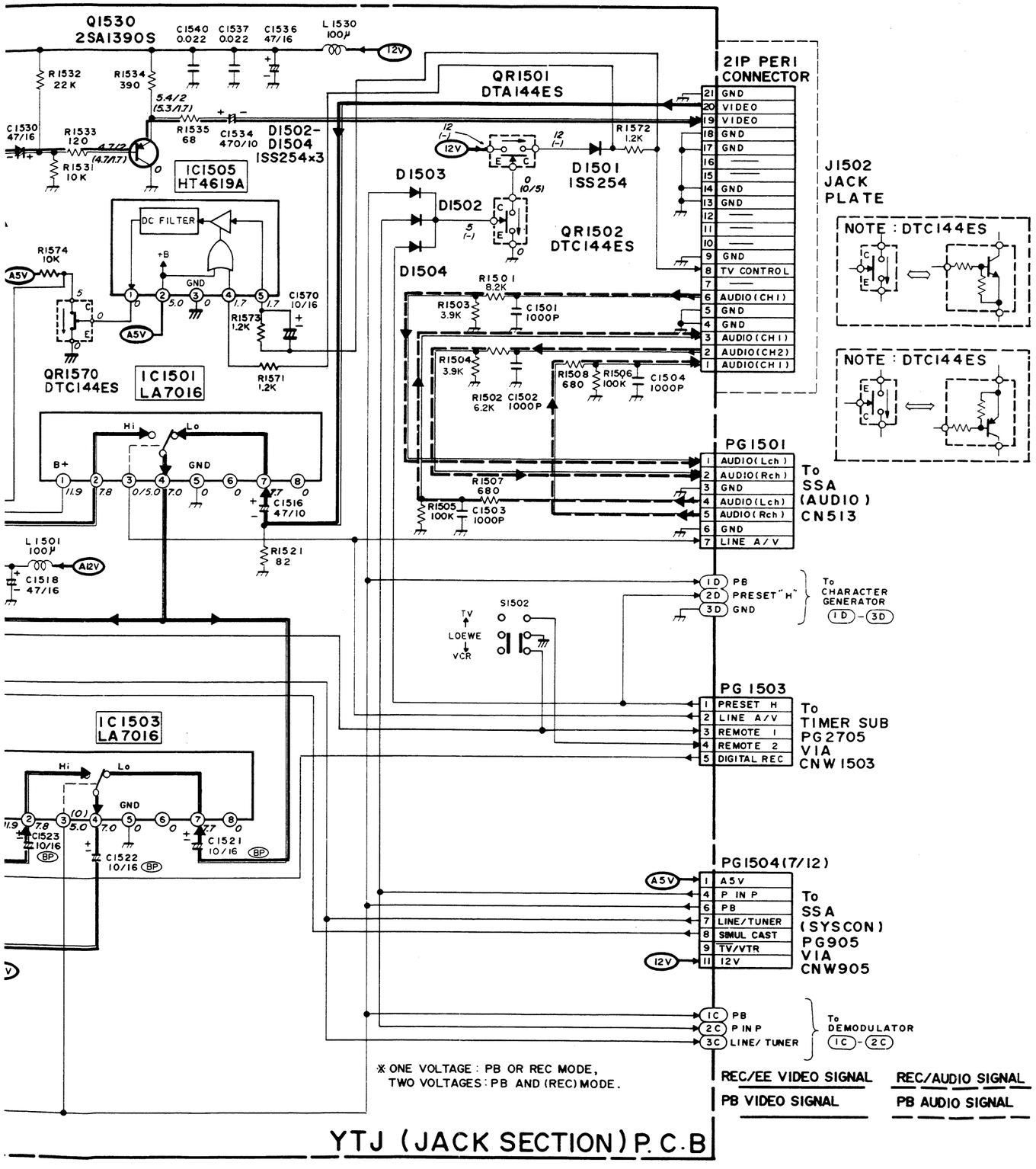

IF UNIT
TUNER UNIT
TUNER VIDEO
AFS
SIF
BM
ERROR OUT
BP
CLOCK
DATA
ENABLE
AGC
IF
B2
B1
BS
BL
BH
VT
BU
Q804 2SD1276PQR
IC803 BA6993
R821 22K
C817 0.022
R822 10K
R823 10K
R832 3.9K
R831 22K
R833 22K
R837 22 (1/2W)
R835 10K
R819 22K
R820 1K
R836 10K
C821 0.01
GND
+B
D804 ISS254
D803 ISS254
R840 47K
To JACK (1B – 6B)
To DEMOULATOR (1A – 4A)
PG801(7/10)
AFC SW
DEFEAT
SYNC DET
S. CURVE
CLOCK
ENABLE
DATA
To TIMER SUB PG2704 VIA CNW801
ZD803 HZS5CT
ZD804 HZS5CT
R826 12K
R827 22K
R828 12K
R829 22K
R825 1K
R801 120K
C801 47/50
R824 22K
Q803 2SC1740S-R
R815 18K
R816 22K
C816 10/16
C815 2.2/50
R818 220
C822 100P
R817 4.7K
BAND SELECT
H. SYNC SEP.
H.AFC
H.OSC
32V REG
C840 0.01
C841 100/16
C838 0.01
C839 10/16
C836 0.01
C837 10/16
R814 10K
C834 0.01
C835 10/16
R830 4.7K
C831 0.22
ZD802 HZS30-T
C832 0.01
C833 10/16
C818 47/16
C820 0.01
R809 1.5K(1/2W)
R810 6.8K
R807 1K
R808 8.2K
C807 0.01
R806 6.8K
C805 0.033
R805 1.2K
C806 0.22
C802 0.033
R802 39K
R803 2.2K
R804 8.2K
C803 2.2/50
TP802
RT801 4.7K-B
C804 6800P
TP801
15.6KHz FREE-RUN
IC801 μPC1484CA
PG1401(5/10)
To REGULATOR PG852 VIA CNW852
C814 100/50
D806 ISS130M-T
QF801 ICP-N5-T
CIRCUIT PROTECT
D805 ISS130M-T
IC802 μPC7805H
Q802 2SA673C
C823 47/50
C812 0.01
R838 1.8K
C825 0.01
C824 0.01
ZD805 HZS30-T
R1428 150
C1425 1/50
To HES8050 VPS IC MODUL (VPS ONLY)
PG203
To TIMER SUB PG2702 VIA CNW203
QF802 ICP-N5
5.6V REG
C809 0.01
C813 0.01
D801 ISS254
C810 0.01
C811 47/16
D802 ISR35-100A-T
R811 470
C819 3.3/50
R812 22K
ZD801 HZS4-BIT
Q801 2SA844C
R813 33K
C808 0.01
R834 1K
PG1402(3/9)
To TIMER SUB PG2703 VIA CNW1403
To CHARACTER GENERATOR (1E – 3E)
PG1504(1/12)
RESET
To SSA (SYSCON) PG905 VIA CNW905
※ ONE VOLTAGE : PB OR REC MODE, TWO VOLTAGES : PB AND (REC) MODE.
YTJ (FS TUNING SECTION) P.C.B

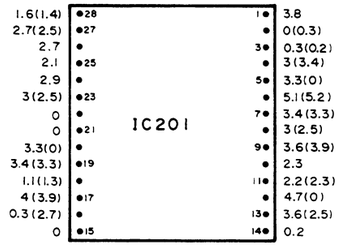

To SSA (AUDIO) PG514 VIA CNW514
PG1502(2/6)
RF AUDIO
GND
RF CONVERTER
AUDIO
VIDEO
A12V
G/I
MOD +B
Q1532 2SC1740S
Q1531 2SA1390C
Q1530 2SA1390S
CP1501
230ns
IC1505 HT4619A
D1502-D1504 1SS254x3
DC FILTER
QR1570 DTC144ES
IC1501 LA7016
IC1502 LA7016
IC1503 LA7016
IC1504 LA7016
QR1501 DTA144ES
QR1502 DTC144ES
D1501 1SS254
D1503
D1502
D1504
21P PERI CONNECTOR
J1502 JACK PLATE
NOTE : DTC144ES
NOTE : DTC144ES
VIDEO OUT
VIDEO IN
J1501
PG1501
To SSA (AUDIO) CN513
To FS TUNING (1B)-(6B)
To HES 8050 VPS MODULE IC (VPS ONLY) (4V)-(5V)
Q1580 2SC1740S
Q1581 2SC1740S
Q1501 2SC1740S
To CHARACTER GENERATOR (1D)-(3D)
S1502
TV LOEWE VCR
PG 1503
To TIMER SUB PG2705 VIA CNW1503
CN1501
To CHASISS GND
PG1504
To SSA (SYS.CON.) PG905 VIA CNW905
PG1403(7/9)
To DIGITAL PROCESS PG1002 VIA CNW1002
PG1504(7/12)
To SSA (SYSCON) PG905 VIA CNW905
To Y/CHROMA (1F)-(6F)
To DEMODULATOR (1C)-(2C)
※ ONE VOLTAGE : PB OR REC MODE, TWO VOLTAGES : PB AND (REC) MODE.
REC/EE VIDEO SIGNAL
REC/AUDIO SIGNAL
PB VIDEO SIGNAL
PB AUDIO SIGNAL
YTJ (JACK SECTION) P.C.B

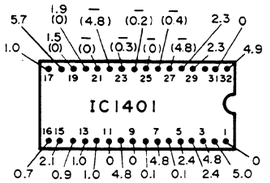
105

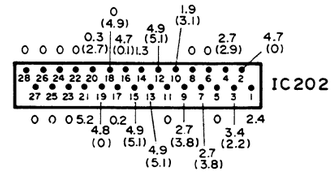
106

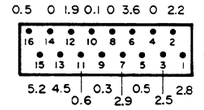
13

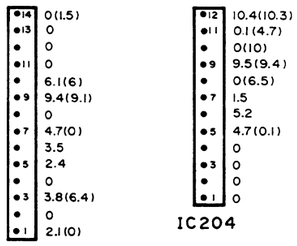

Q1530
2SA1390S
C1540 0.022
C1537 0.022
C1536 47/16
L1530 100μ
12V
R1532 22K
R1534 390
5.4/2 (5.3/1.7)
C1530 47/16
R1533 120
4.7/2 (4.7/1.7)
R1535 68
C1534 470/10
R1531 10K
D1502-D1504 1SS254x3
IC1505 HT4619A
DC FILTER
+B
GND
A5V
R1574 10K
C1570 10/16
QR1570 DTC144ES
IC1501 LA7016
R1573 1.2K
R1571 1.2K
Hi
Lo
B+
C1516 47/10
R1521 82
L1501 100μ
A12V
C1518 47/16
QR1501 DTA144ES
D1501 1SS254
R1572 1.2K
D1503
D1502
D1504
QR1502 DTC144ES
R1501 8.2K
R1503 3.9K
C1501 1000P
R1504 3.9K
R1502 6.2K
C1502 1000P
R1508 680
R1506 100K
C1504 1000P
R1507 680
R1505 100K
C1503 1000P
21P PERI CONNECTOR
21 GND
20 VIDEO
19 VIDEO
18 GND
17 GND
14 GND
13 GND
9 GND
8 TV CONTROL
6 AUDIO(CH1)
5 GND
4 GND
3 AUDIO(CH1)
2 AUDIO(CH2)
1 AUDIO(CH1)
J1502 JACK PLATE
NOTE : DTC144ES
NOTE : DTC144ES
PG1501
1 AUDIO(Lch)
2 AUDIO(Rch)
3 GND
4 AUDIO(Lch)
5 AUDIO(Rch)
6 GND
7 LINE A/V
To SSA (AUDIO) CN513
1D PB
2D PRESET"H"
3D GND
To CHARACTER GENERATOR (1D)-(3D)
S1502
TV
LOEWE
VCR
IC1503 LA7016
C1523 10/16 BP
C1522 10/16 BP
C1521 10/16 BP
PG 1503
1 PRESET H
2 LINE A/V
3 REMOTE 1
4 REMOTE 2
5 DIGITAL REC
To TIMER SUB PG2705 VIA CNW1503
PG1504(7/12)
A5V
4 P IN P
6 PB
7 LINE/TUNER
8 SIMUL CAST
9 TV/VTR
12V
11 12V
To SSA (SYSCON) PG905 VIA CNW905
1C PB
2C P IN P
3C LINE/TUNER
To DEMODULATOR (1C)-(2C)
※ ONE VOLTAGE : PB OR REC MODE,
TWO VOLTAGES : PB AND (REC) MODE.
REC/EE VIDEO SIGNAL
PB VIDEO SIGNAL
REC/AUDIO SIGNAL
PB AUDIO SIGNAL
YTJ (JACK SECTION) P.C.B

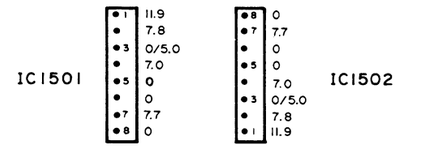

IC201

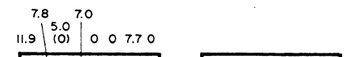

IC1401

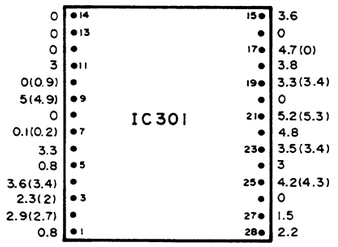

IC202

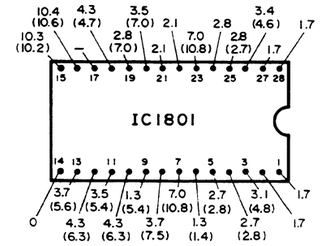

IC1402

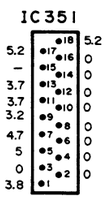

IC203
IC204


IC1501
IC1502


IC1503
IC1504


IC301


IC1801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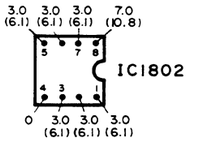
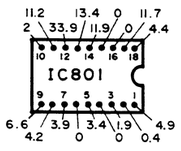

IC1802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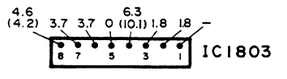
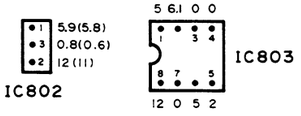
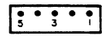
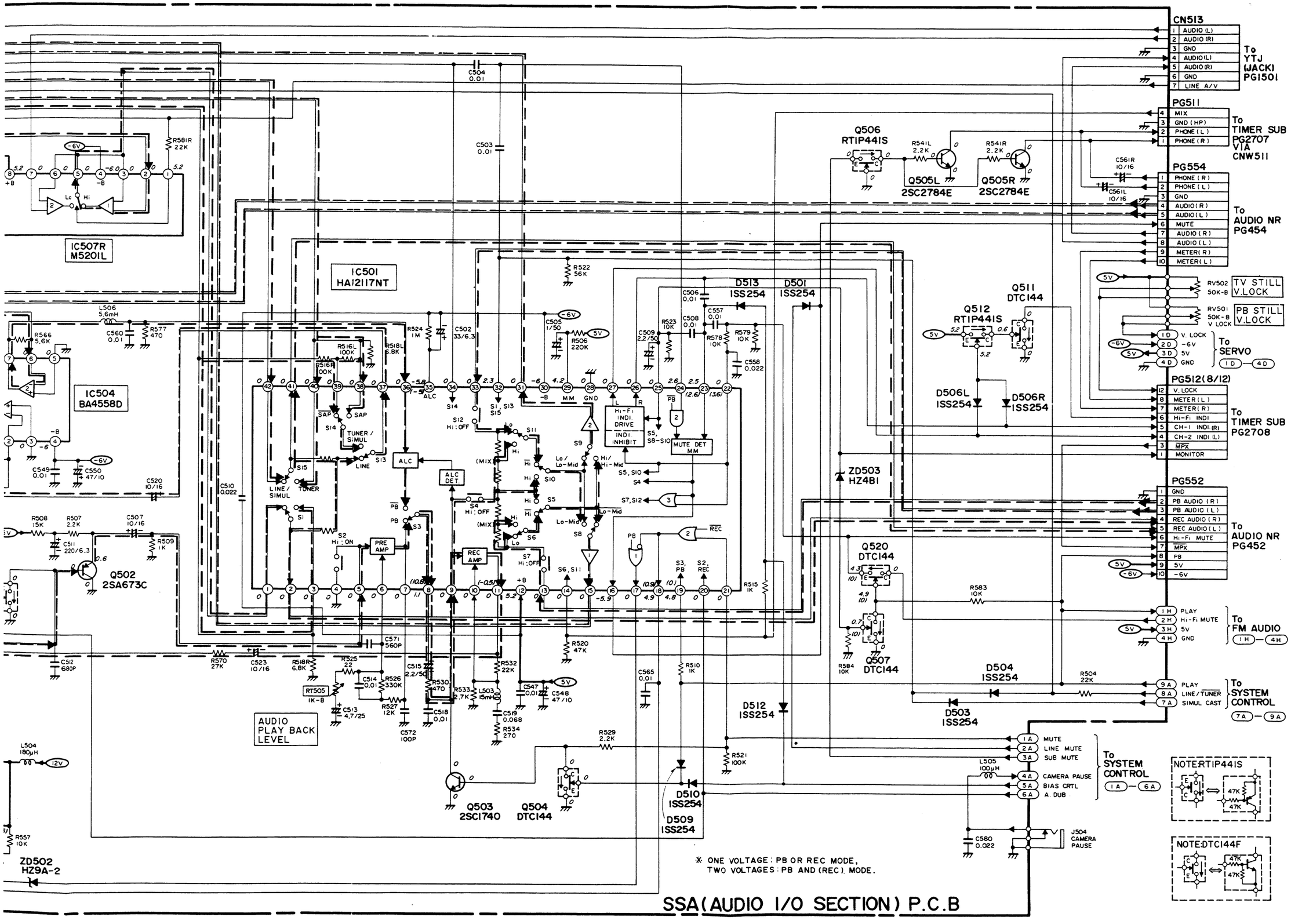
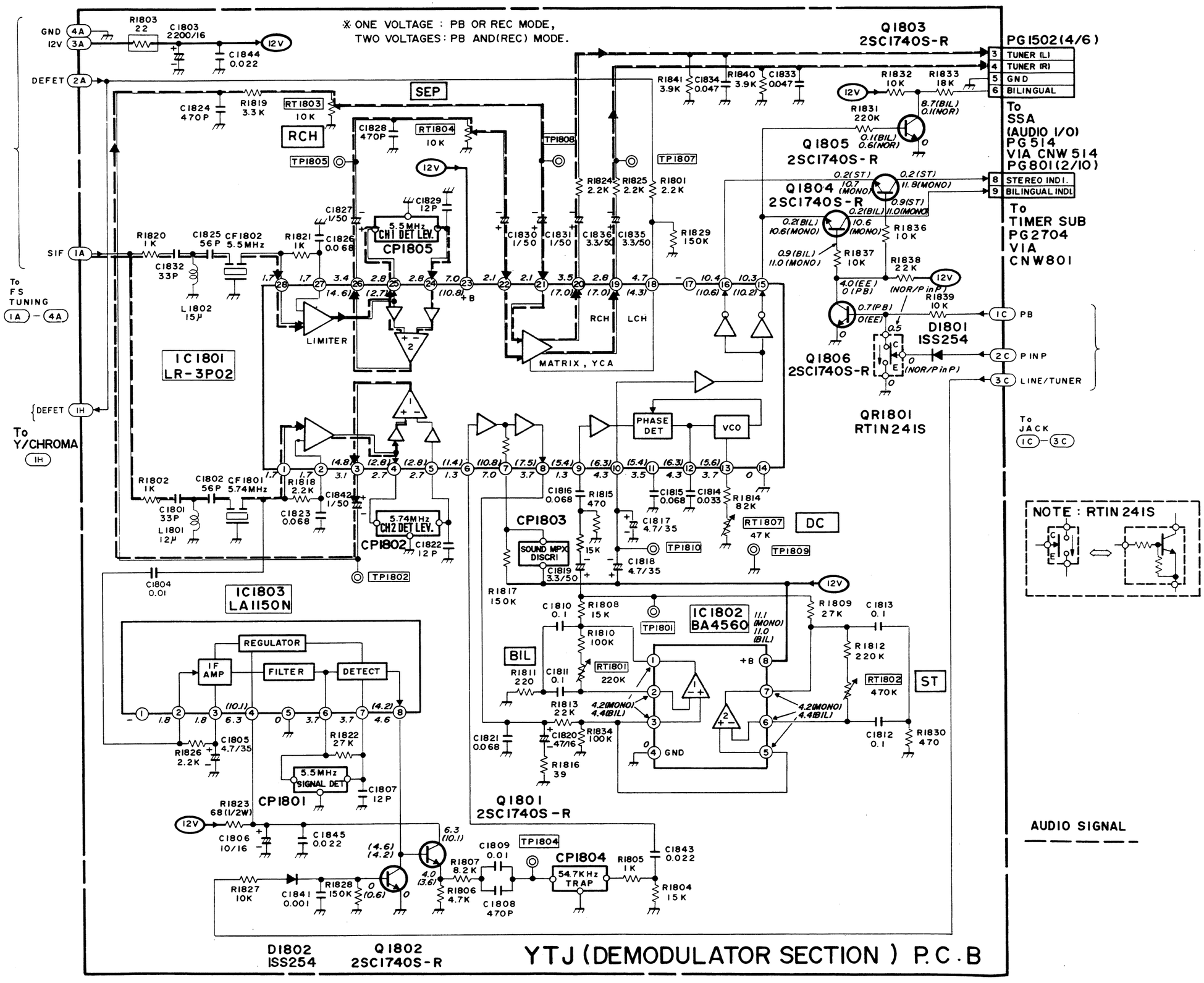

IC1803

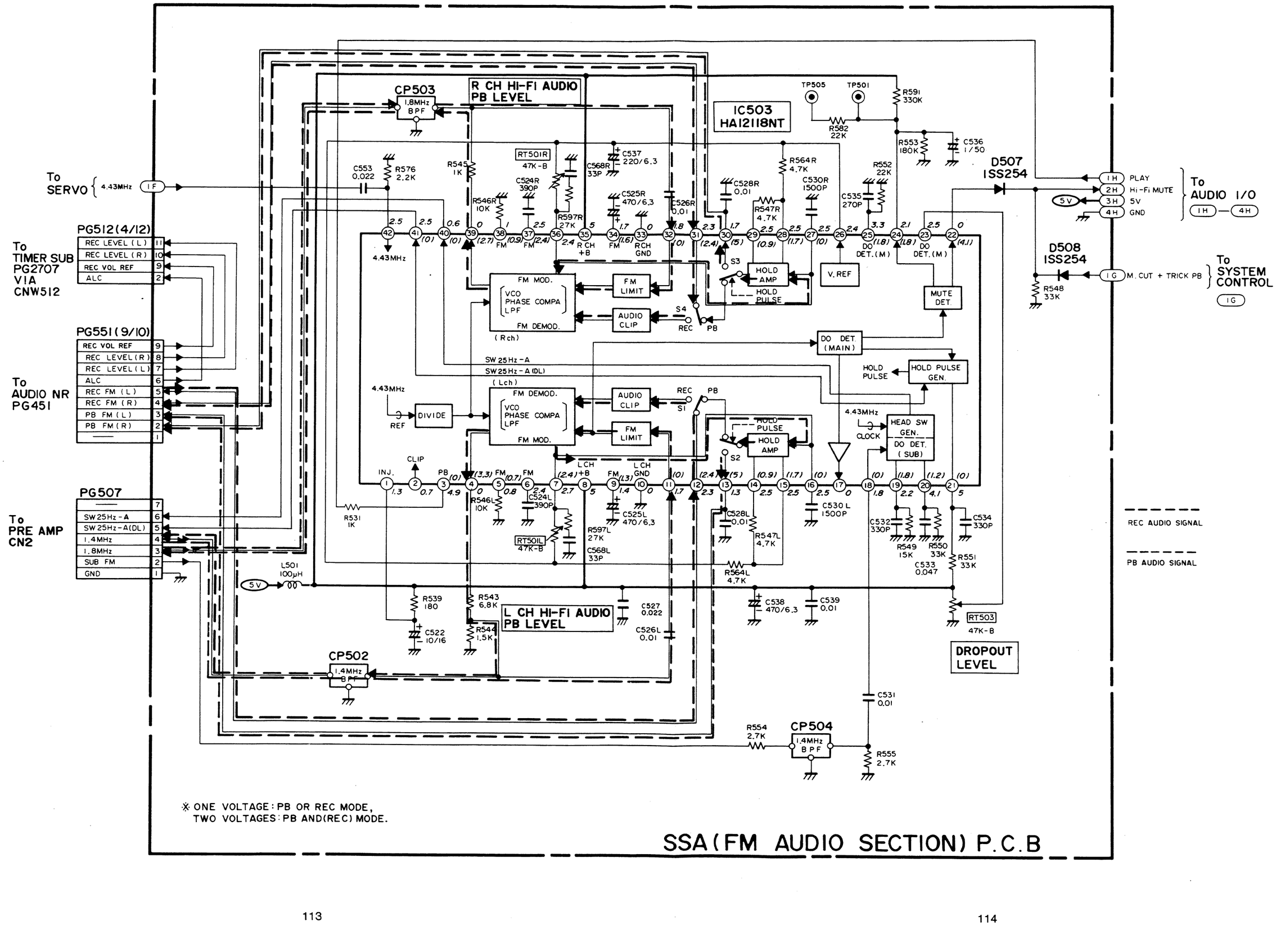

IC802
IC803


IC1505

PG553 (8/10)
AUDIO (R) 1
AUDIO (L) 2
BILINGUAL 3
EE LINE(R) 4
EE LINE(L) 5
LINE 6
TUNER (L) 9
TUNER (R) 10
To AUDIO NR PG453
PG514
DEMODULATOR: BILINGUAL 6, GND 5, TUNER (R) 4, TUNER (L) 3
JACK: GND 2, RF AUDIO 1
To YTJ PG1502 VIA CNW514
PG905(2/12)
JACK CHA.GEN.: 12V 11, -6V 12
To AUDIO NR PG451
PG551(1/10) 12V 10
PG503
AUDIO REC/PB HEAD
PB AUDIO 1
REC AUDIO 2
GND 3
AUDIO ERASE 4
AUDIO ERASE HEAD
PG504
FULL ERASE 1
GND 2
FULL ERASE HEAD
PB AUDIO SIGNAL
REC AUDIO SIGNAL
J501R AUDIO IN(R)
J501L AUDIO IN(L)
J502R AUDIO OUT(R)
J502L AUDIO OUT(L)
J505 MIC
IC507L M5201L
IC507R M5201L
IC509 BA4558D
IC504 BA4558D
IC502 BA7755
IC501 HA12117NT
AUDIO BIAS LEVEL
AUDIO PLAY BACK LEVEL
Q501 DTC144
Q502 2SA673C
Q503 2SC1740
Q504 DTC144
Q516 2SA844
Q517 2SD468D
Q518 2SA844
Q519 2SC2784E
D501 ISS254
D509 ISS254
D510 ISS254
D512 ISS254
ZD501 HZ9A-2
ZD502 HZ9A-2
※ ONE VOLTAGE : PB OR REC MODE, TWO VOLTAGES : PB AND (REC). MO
SSA(AUDIO I/O SECT

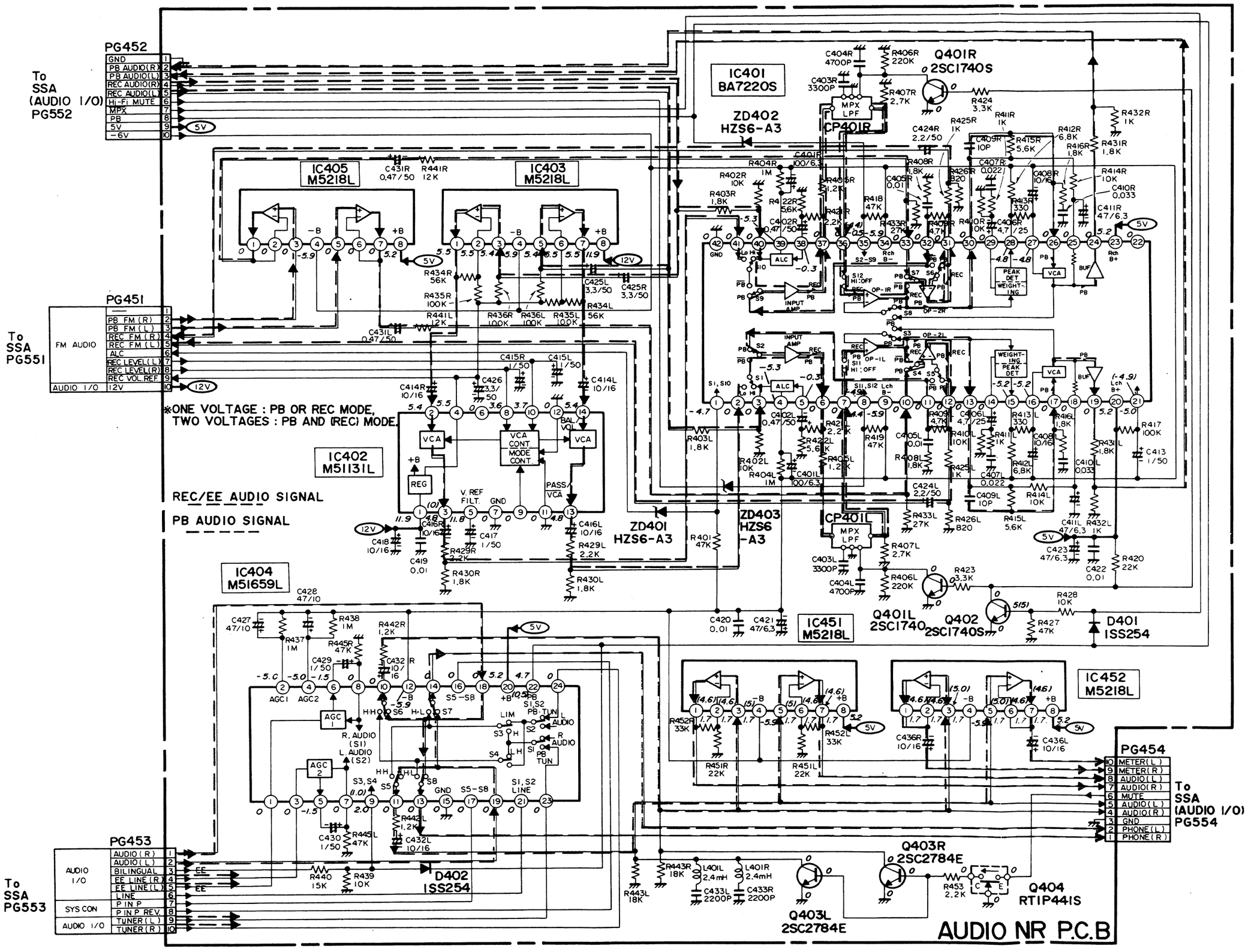

IC507R M5201L
IC501 HA12117NT
IC504 BA4558D
Q502 2SA673C
Q503 2SC1740
Q504 DTC144
Q506 RTIP441S
Q505L 2SC2784E
Q505R 2SC2784E
Q512 RTIP441S
Q511 DTC144
Q520 DTC144
Q507 DTC144
D513 ISS254
D501 ISS254
D506L ISS254
D506R ISS254
D512 ISS254
D504 ISS254
D503 ISS254
D510 ISS254
D509 ISS254
ZD503 HZ4BI
ZD502 HZ9A-2
CN513
To YTJ (JACK) PG1501
PG511
To TIMER SUB PG2707 VIA CNW511
PG554
To AUDIO NR PG454
TV STILL V.LOCK
PB STILL V.LOCK
To SERVO
PG512(8/12)
To TIMER SUB PG2708
PG552
To AUDIO NR PG452
To FM AUDIO
To SYSTEM CONTROL
To SYSTEM CONTROL
J504 CAMERA PAUSE
AUDIO PLAY BACK LEVEL
NOTE:RTIP441S
NOTE:DTC144F
※ ONE VOLTAGE: PB OR REC MODE, TWO VOLTAGES: PB AND (REC) MODE.
SSA(AUDIO I/O SECTION) P.C.B


※ ONE VOLTAGE : PB OR REC MODE,
TWO VOLTAGES: PB AND(REC) MODE.
GND 4A
12V 3A
DEFET 2A
SIF 1A
DEFET 1H
To FS TUNING 1A – 4A
To Y/CHROMA 1H
R1803 22
C1803 2200/16
C1844 0.022
SEP
RCH
RT1803 10K
RT1804 10K
C1824 470P
R1819 3.3K
C1828 470P
TP1805
TP1808
TP1807
C1827 1/50
C1829 12P
5.5MHz CH1 DET LEV. CP1805
R1820 1K
C1825 56P
CF1802 5.5MHz
R1821 1K
C1826 0.068
C1832 33P
L1802 15μ
C1830 1/50
C1831 1/50
C1836 3.3/50
C1835 3.3/50
R1824 2.2K
R1825 2.2K
R1801 2.2K
R1829 150K
LIMITER
MATRIX, YCA
RCH
LCH
IC1801 LR-3P02
PHASE DET
VCO
R1802 1K
C1802 56P
CF1801 5.74MHz
C1801 33P
L1801 12μ
R1818 2.2K
C1842 1/50
C1823 0.068
5.74MHz CH2 DET LEV. CP1802
TP1802
C1804 0.01
IC1803 LA1150N
C1816 0.068
R1815 470
CP1803
SOUND MPX DISCRI
C1819 3.3/50
15K
C1817 4.7/35
TP1810
C1818 4.7/35
RT1807 47K
DC
TP1809
C1815 0.068
C1814 0.033
R1814 82K
R1817 150K
C1810 0.1
R1808 15K
TP1801
IC1802 BA4560
11.1 (MONO) 11.0 (BIL)
R1809 27K
C1813 0.1
R1810 100K
BIL
R1811 220
C1811 0.1
RT1801 220K
R1813 22K
C1820 47/16
R1834 100K
R1816 39
C1821 0.068
GND
+8
R1812 220K
RT1802 470K
ST
C1812 0.1
R1830 470
REGULATOR
IF AMP
FILTER
DETECT
R1826 2.2K
C1805 4.7/35
R1822 27K
5.5MHz SIGNAL DET
CP1801
C1807 12P
R1823 68(1/2W)
C1806 10/16
C1845 0.022
TP1804
CP1804
54.7KHz TRAP
C1809 0.01
R1807 8.2K
R1806 4.7K
C1808 470P
R1805 1K
C1843 0.022
R1804 15K
R1827 10K
C1841 0.001
R1828 150K
Q1801 2SC1740S-R
Q1803 2SC1740S-R
R1841 3.9K
C1834 0.047
R1840 3.9K
C1833 0.047
R1832 10K
R1833 18K
R1831 220K
8.7(BIL) 0.1(NOR)
0.1(BIL) 0.6(NOR)
Q1805 2SC1740S-R
0.2(ST) 10.7 (MONO)
0.2(ST) 11.8(MONO)
Q1804 2SC1740S-R
0.9(ST) 11.0(MONO)
0.2(BIL) 10.6(MONO)
10.6 (MONO)
R1836 10K
0.9(BIL) 11.0 (MONO)
R1837 10K
R1838 22K
4.0(EE) 0(PB)
0.7(PB) 0(EE)
(NOR/P in P)
R1839 10K
D1801 ISS254
Q1806 2SC1740S-R
(NOR/P in P)
QR1801 RTIN241S
PG1502(4/6)
3 TUNER (L)
4 TUNER (R)
5 GND
6 BILINGUAL
To SSA (AUDIO I/O) PG514 VIA CNW514 PG801(2/10)
8 STEREO INDI.
9 BILINGUAL INDI.
To TIMER SUB PG2704 VIA CNW801
1C PB
2C P IN P
3C LINE/TUNER
To JACK 1C – 3C
D1802 ISS254
Q1802 2SC1740S-R
YTJ (DEMODULATOR SECTION) P.C.B
NOTE : RTIN 241S
AUDIO SIGNAL

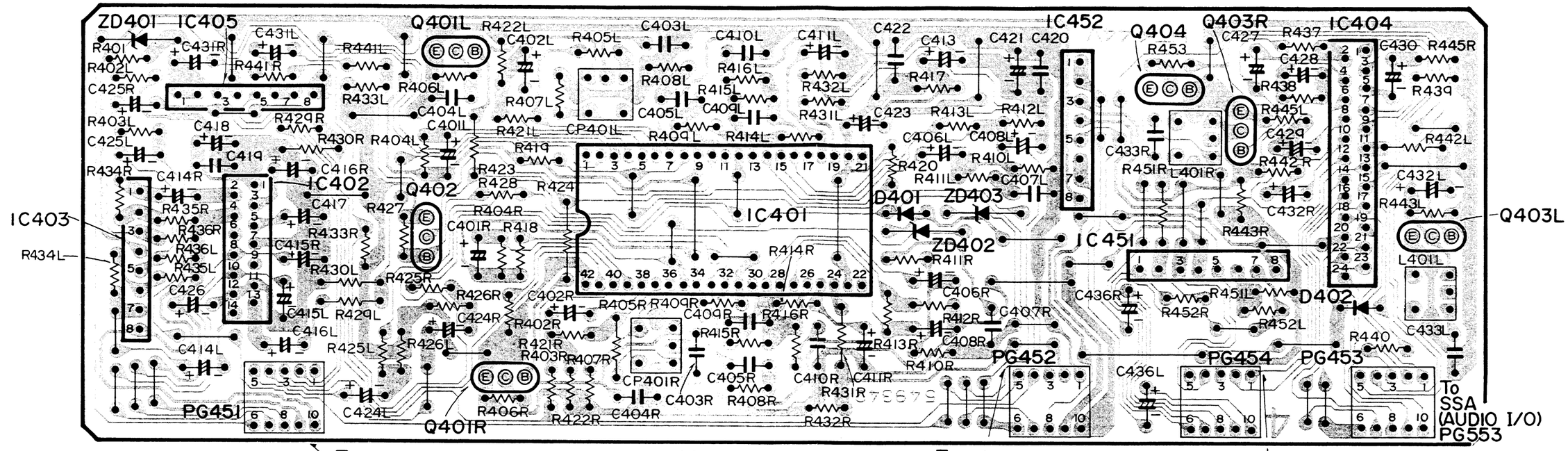


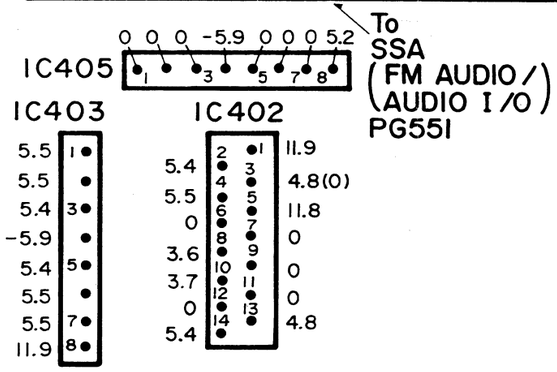
※ ONE VOLTAGE: PB OR REC MODE,
TWO VOLTAGES: PB AND(REC) MODE.

SSA(FM AUDIO SECTION) P.C.B

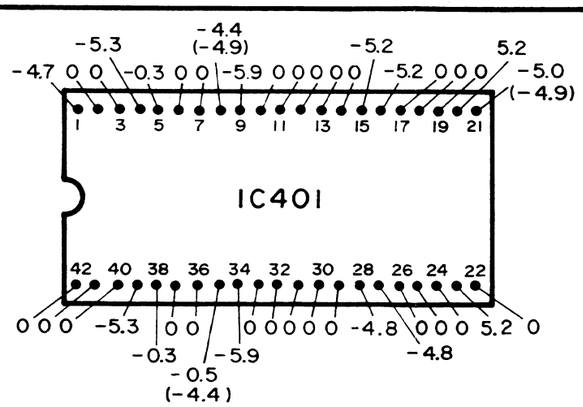

PG452
GND 1
PB AUDIO(R) 2
PB AUDIO(L) 3
REC AUDIO(R) 4
REC AUDIO(L) 5
Hi-Fi MUTE 6
MPX 7
PB 8
5V 9
-6V 10
To SSA (AUDIO I/O) PG552
PG451
PB FM (R) 2
PB FM (L) 3
REC FM (R) 4
REC FM (L) 5
ALC 6
REC LEVEL(L) 7
REC LEVEL(R) 8
REC VOL REF 9
AUDIO I/O 12V 10
FM AUDIO
To SSA PG551
*ONE VOLTAGE : PB OR REC MODE, TWO VOLTAGES : PB AND (REC) MODE.
REC/EE AUDIO SIGNAL
PB AUDIO SIGNAL
IC401 BA7220S
ZD402 HZS6-A3
CP401R
Q401R 2SC1740S
IC405 M5218L
IC403 M5218L
IC402 M51131L
IC404 M51659L
IC451 M5218L
IC452 M5218L
ZD401 HZS6-A3
ZD403 HZS6-A3
CP401L
Q401L 2SC1740
Q402 2SC1740S
D401 1SS254
D402 1SS254
Q403R 2SC2784E
Q403L 2SC2784E
Q404 RTIP44IS
PG453
AUDIO (R) 1
AUDIO (L) 2
BILINGUAL 3
EE LINE (R) 4
EE LINE (L) 5
LINE 6
P IN P 7
P IN P REV. 8
TUNER (L) 9
TUNER (R) 10
AUDIO I/O
SYS CON
AUDIO I/O
To SSA PG553
PG454
METER(L) 10
METER(R) 9
AUDIO(L) 8
AUDIO(R) 7
MUTE 6
AUDIO(L) 5
AUDIO(R) 4
GND 3
PHONE(L) 2
PHONE(R) 1
To SSA (AUDIO I/O) PG554
AUDIO NR P.C.B

AUDIO NR P.C.B

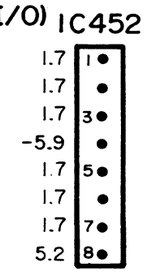




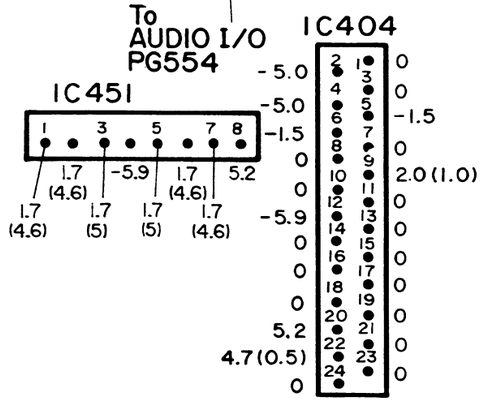
To SSA (FM AUDIO / AUDIO I/O) PG551



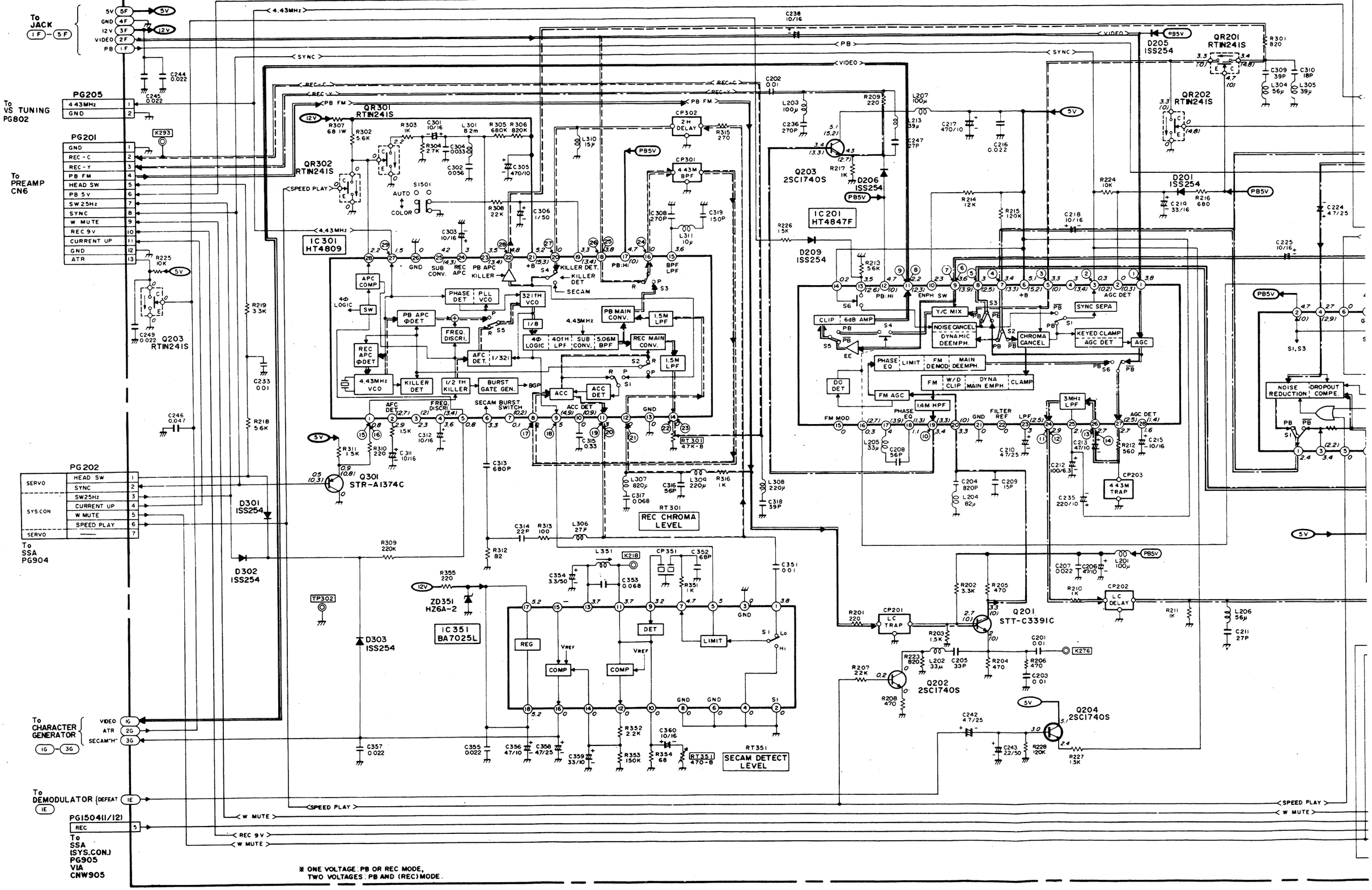
To SSA (AUDIO I/O) PG552

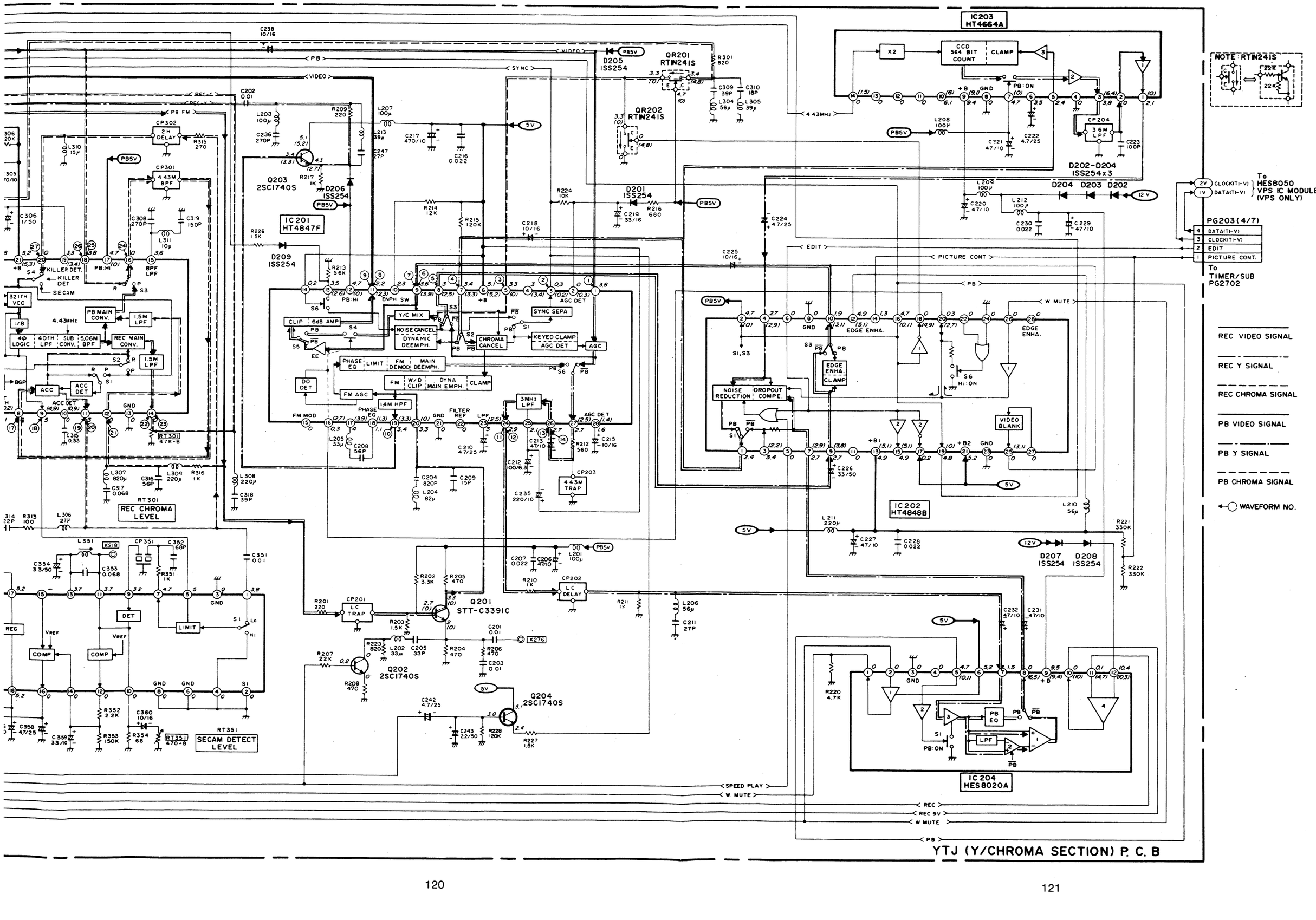


To AUDIO I/O PG554



※ ONE VOLTAGE : PB OR REC MODE,
TWO VOLTAGS : PB AND(REC) MODE.

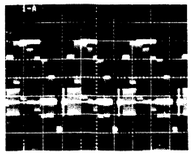

To JACK 1F–5F
5V 5F
GND 4F
12V 3F
VIDEO 2F
PB 1F
PG205
4.43MHz 1
GND 2
To VS TUNING PG802
PG201
GND 1
REC-C 2
REC-Y 3
PB FM 4
HEAD SW 5
PB 5V 6
SW 25Hz 7
SYNC 8
W MUTE 9
REC 9V 10
CURRENT UP 11
GND 12
ATR 13
To PREAMP CN6
K293
R225 10K
C249 0.022
Q203 RTIN241S
C244 0.022
C245 0.022
R219 3.3K
C233 0.01
C246 0.047
R218 5.6K
PG202
SERVO
HEAD SW 1
SYNC 2
SW25Hz 3
SYS CON
CURRENT UP 4
W MUTE 5
SPEED PLAY 6
SERVO 7
To SSA PG904
D301 ISS254
D302 ISS254
D303 ISS254
R309 220K
TP302
4.43MHz
QR301 RTIN241S
QR302 RTIN241S
SPEED PLAY
S1501 AUTO COLOR
R307 68 1W
R302 5.6K
R303 1K
C301 10/16
L301 8.2m
R305 680K
R306 820K
R304 2.7K
C304 0.033
C302 0.056
C305 470/10
R308 22K
C306 1/50
C303 10/16
IC301 HT4809
APC COMP
4Φ LOGIC
SW
PB APC ΦDET
REC APC ΦDET
PHASE DET
PLL VCO
321TH VCO
1/8
FREQ. DISCRI.
AFC DET. 1/321
4.43MHz VCO
KILLER DET
1/2 1H KILLER
BURST GATE GEN.
BGP
SUB CONV.
REC APC
PB APC
KILLER
KILLER DET.
SECAM
PB:HI
BPF LPF
4Φ LOGIC
40TH LPF
SUB CONV.
5.06M BPF
PB MAIN CONV.
1.5M LPF
REC MAIN CONV.
1.5M LPF
ACC
ACC DET
AFC DET.
FREQ. DISCRI.
SECAM BURST SWITCH
GND
C312 10/16
R311 1.5K
R310 220
C311 10/16
C313 680P
Q301 STR-A1374C
CP302 2H DELAY
R315 270
CP301 4.43M BPF
L310 15μ
C308 270P
C319 150P
L311 10μ
C315 0.33
L307 820μ
C317 0.068
C316 56P
L309 220μ
R316 1K
RT301 47K-B
RT301 REC CHROMA LEVEL
L308 220μ
C318 39P
C314 22P
R313 100
L306 27μ
R312 82
R355 220
ZD351 HZ6A-2
IC351 BA7025L
REG
VREF
COMP
DET
LIMIT
GND
S1 Lo Hi
L351
K218
CP351
C352 68P
C354 33/50
C353 0.068
R351 1K
C351 0.01
C355 0.022
C356 47/10
C358 47/25
C359 33/10
R352 2.2K
R353 150K
R354 68
C360 10/16
RT351 470-B
RT351 SECAM DETECT LEVEL
C357 0.022
To CHARACTER GENERATOR
VIDEO 1G
ATR 2G
SECAM"H" 3G
1G–3G
To DEMODULATOR (DEFEAT 1E)
1E
PG1504(11/12)
REC 5
To SSA (SYS.CON.) PG905 VIA CNW905
REC 9V
W MUTE
SPEED PLAY
W MUTE
* ONE VOLTAGE: PB OR REC MODE,
TWO VOLTAGES: PB AND (REC) MODE.
C238 10/16
C202 0.01
L203 100μ
C236 270P
Q203 2SC1740S
R209 220
L207 100μ
L213 39μ
C247 27P
C217 470/10
C216 0.022
R217 1K
D206 ISS254
IC201 HT4847F
R226 1.5K
D209 ISS254
R214 12K
R215 120K
R224 10K
D201 ISS254
R216 680
C219 33/16
C218 10/16
C225 10/16
C224 47/25
R213 5.6K
PB:HI
ENPH SW
+B
AGC DET
S6
CLIP 6dB AMP
Y/C MIX
SYNC SEPA
NOISE CANCEL DYNAMIC DEEMPH.
CHROMA CANCEL
KEYED CLAMP AGC DET
AGC
PHASE EQ
LIMIT
FM DEMOD
DEEMPH.
MAIN
DO DET
FM W/D CLIP
DYNA MAIN EMPH.
CLAMP
FM AGC
14M HPF
FM MOD
PHASE EQ
FILTER REF
LPF
3MHz LPF
AGC DET
L205 33μ
C208 56P
C210 47/25
C212 100/6.3
C213 47/10
R212 560
C215 10/16
CP203 4.43M TRAP
C235 220/10
C204 820P
L204 82μ
C209 15P
R309 220K
D302 ISS254
D303 ISS254
R202 3.3K
R205 470
C207 0.022
C206 47/10
L201 100μ
R210 1K
CP202 LC DELAY
R211 1K
L206 56μ
C211 27P
R201 220
CP201 LC TRAP
Q201 STT-C3391C
R203 1.5K
C201 0.01
K276
R223 820
L202 33μ
C205 33P
R204 470
R206 470
C203 0.01
R207 22K
R208 470
Q202 2SC1740S
Q204 2SC1740S
C242 47/25
C243 22/50
R228 120K
R227 1.5K
NOISE REDUCTION
DROPOUT COMPE.
S1, S3
S2
S4
S5
S6



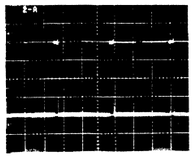
YTJ (Y/CHROMA SECTION) P. C. B

Y/CHROMA

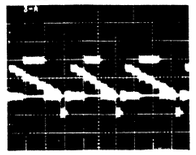
1 IC201-1
0.2V/20.0μ sec.cm
REC



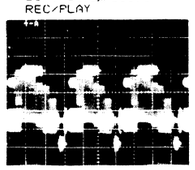
2 IC201-3
1V/20.0μ sec.cm
REC/PLAY



3 IC201-7
0.1V/20.0μ sec.cm
REC/PLAY

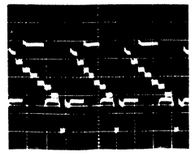


4 IC201-8
50mV/20.0μ sec.cm
REC/PLAY

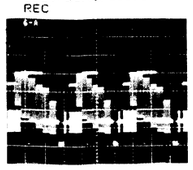


5 IC201-9
50mV/20.0μ sec.cm
REC

6 IC201-9
0.2V/20.0μ sec.cm
PLAY

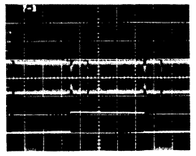


7 IC201-11
0.5V/20.0μ sec.cm
REC

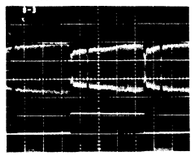


8 IC201-11
0.5V/20.0μ sec.cm
PLAY

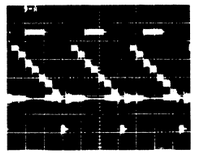
9 IC201-19
0.2V/5.0msec.cm
PLAY



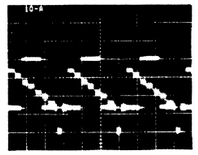
10 IC201-20
0.2V/5.0msec.cm
PLAY



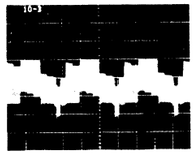
11 IC201-24
0.1V/20.0μ sec.cm
REC/PLAY



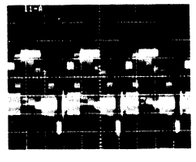
12 IC201-26
50mV/20.0μ sec.cm
REC



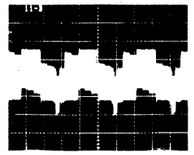
13 IC201-26
0.1V/20.0μ sec.cm
PLAY



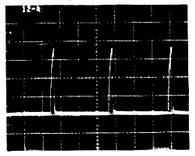
14 IC201-27
50mV/20.0μ sec.cm
REC



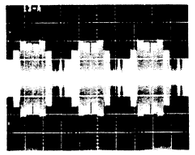
15 IC201-27
0.1V/20.0μ sec.cm
PLAY



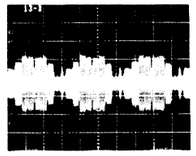
16 IC301-1
1V/20.0μ sec.cm
REC/PLAY



17 IC301-8
0.1V/20.0μ sec.cm
REC

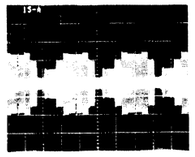


18 IC301-8
0.1V/20.0μ sec.cm
PLAY

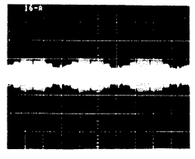


19 IC301-9
1V/20.0μ sec.cm
REC/PLAY

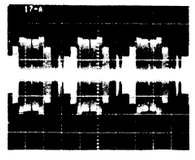
20 IC301-11
0.2V/20.0μ sec.cm
REC/PLAY



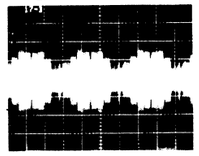
21 IC301-12
50mV/20.0μ sec.cm
PLAY



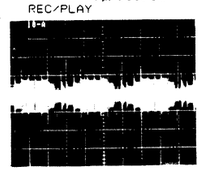
22 IC301-14
0.1V/20.0μ sec.cm
REC



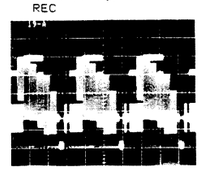
23 IC301-14
50mV/20.0μ sec.cm
PLAY



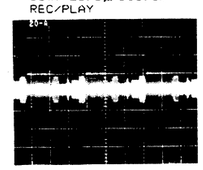
24 IC301-16
0.1V/20.0μ sec.cm
REC/PLAY



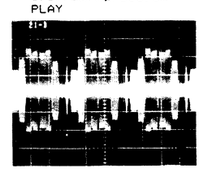
25 IC301-18
0.2V/20.0μ sec.cm
REC



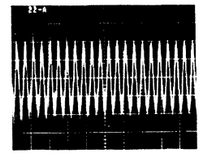
26 IC301-20
50mV/20.0μ sec.cm
REC/PLAY



27 IC301-22
0.1V/20.0μ sec.cm
PLAY

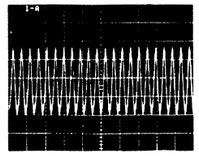


28 IC301-27
0.1V/500nsec.cm
REC/PLAY

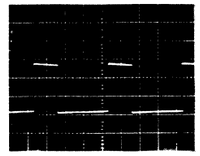


SERVO

1 IC601-8
0.1V/500nsec.cm
REC/PLAY

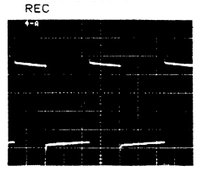


2 IC601-10
2V/10.0msec.cm
REC/PLAY

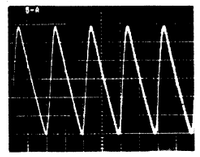


3 IC601-16
2V/10.0msec.cm
REC

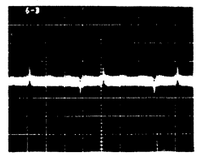
4 IC601-17
1V/10.0msec.cm
REC



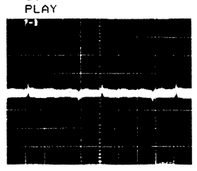
5 IC601-24
0.2V/200nsec.cm
REC/PLAY



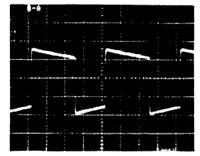
6 IC601-27
50mV/10.0msec.cm
PLAY



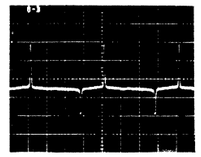
7 IC601-28
50mV/10.0msec.cm
PLAY



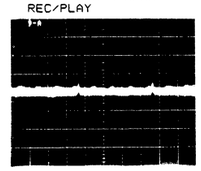
8 IC601-30
1V/10.0msec.cm
REC



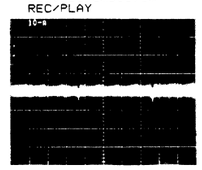
9 IC601-30
1V/10.0msec.cm
PLAY



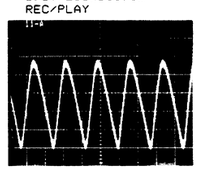
10 IC601-32
50mV/10.0msec.cm
REC/PLAY



11 IC601-33
50mV/10.0msec.cm
REC/PLAY

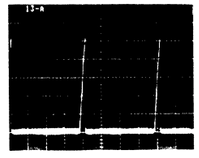


12 IC601-36
0.1V/200nsec.cm
REC/PLAY

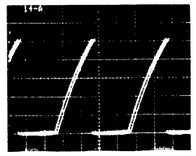


13 IC601-48
1V/10.0msec.cm
REC/PLAY

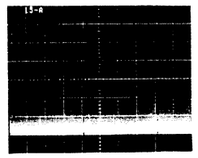
14 IC601-56
0.5V/5.0msec.cm
REC/PLAY



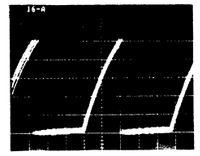
15 IC601-57
0.5V/5.0msec.cm
REC/PLAY



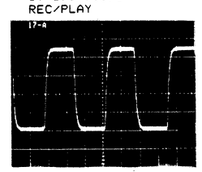
16 IC601-58
0.5V/5.0msec.cm
REC/PLAY

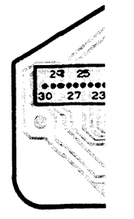


17 IC601-60
0.5V/10.0msec.cm
REC/PLAY



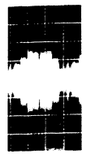
18 IC601-61
1V/1.0msec.cm
REC/PLAY



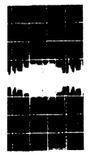


SERVO

sec.cm

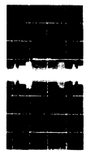


sec.cm



sec.cm

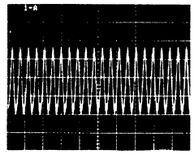
sec.cm



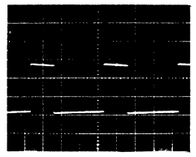
sec.cm

c.cm

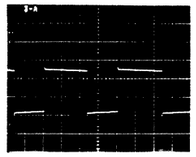
1 IC601-8
0.1V/500nsec.cm
REC/PLAY



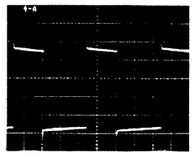
2 IC601-12
2V/10.0msec.cm
REC/PLAY



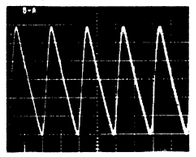
3 IC601-16
2V/10.0msec.cm
REC



4 IC601-17
1V/10.0msec.cm
REC

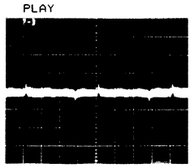


5 IC601-24
0.2V/200nsec.cm
REC/PLAY

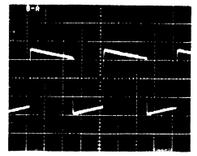


6 IC601-27
50mV/10.0msec.cm
PLAY

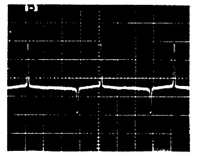
7 IC601-28
50mV/10.0msec.cm
PLAY



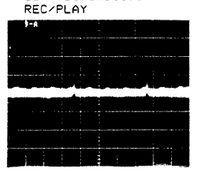
8 IC601-30
1V/10.0msec.cm
REC



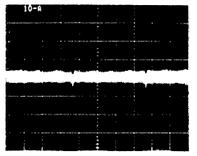
9 IC601-30
1V/10.0msec.cm
PLAY



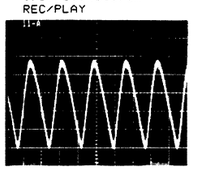
10 IC601-32
50mV/10.0msec.cm
REC/PLAY



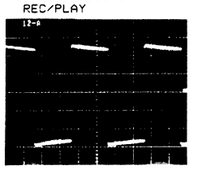
11 IC601-33
50mV/10.0msec.cm
REC/PLAY



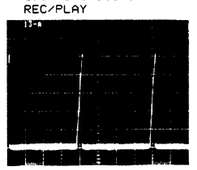
12 IC601-36
0.1V/200nsec.cm
REC/PLAY



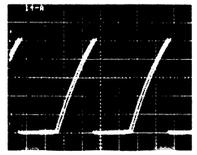
13 IC601-48
1V/10.0msec.cm
REC/PLAY



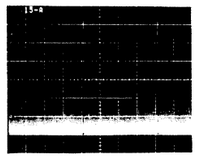
14 IC601-56
0.5V/5.0msec.cm
REC/PLAY



15 IC601-57
0.5V/5.0msec.cm
REC/PLAY

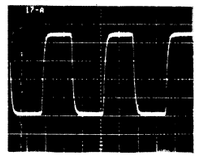


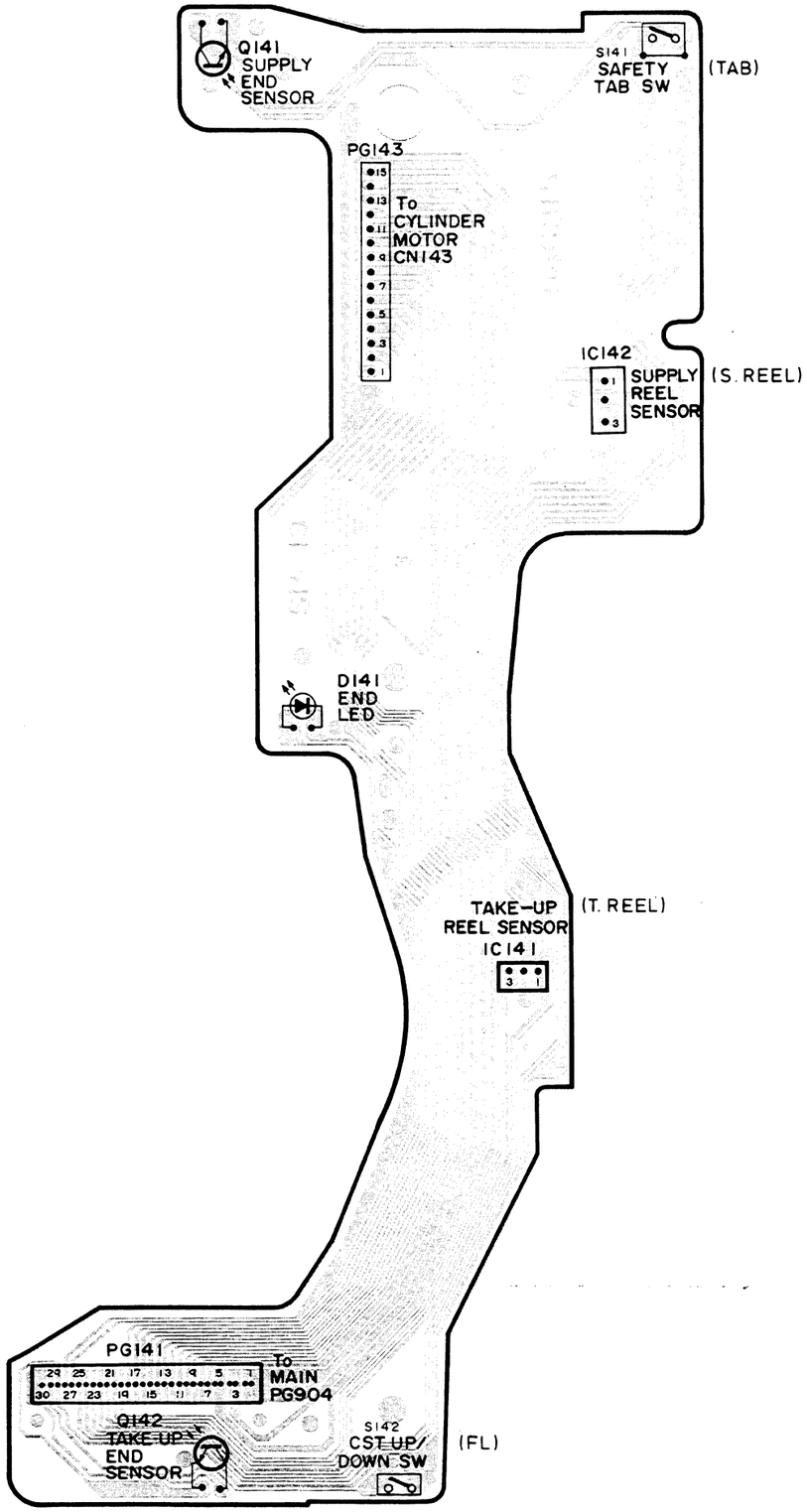
16 IC601-58
0.5V/5.0msec.cm
REC/PLAY



17 IC601-60
0.5V/10.0msec.cm
REC/PLAY

18 IC601-61
1V/1.0msec.cm
REC/PLAY





SENSOR P.C.B

CYL SERVO SIGNAL

CAPST.SERVO SIGNAL

CYLINDER MOTOR

CYLINDER MOTOR P.C.B

SENSOR P.C.B

PG901(19/30)

TACH SENSOR

IC603 HA13403

HALL AMP

LOGIC

DRIVE

CV F.B

GND

CONT Vcc

OPP SW

CONT. STOP

※ONE VOLTAGE : PB OR REC MODE.
TWO VOLTAGES : PB AND (REC) MODE.

SSA (MOTOR DRIVE SECTION) P.C.B

To SERVO 1E — 8E

CAPSTAN MOTOR

DRIVER

ROTOR POSITION SENSOR

5V REG

FIN

IC1601 TA8408F

PG1602

Q1611 2SD1266A

Q1602 2SC2812

Q1601 DTC144

Q1603 2SC3361

IC1602 BA4560

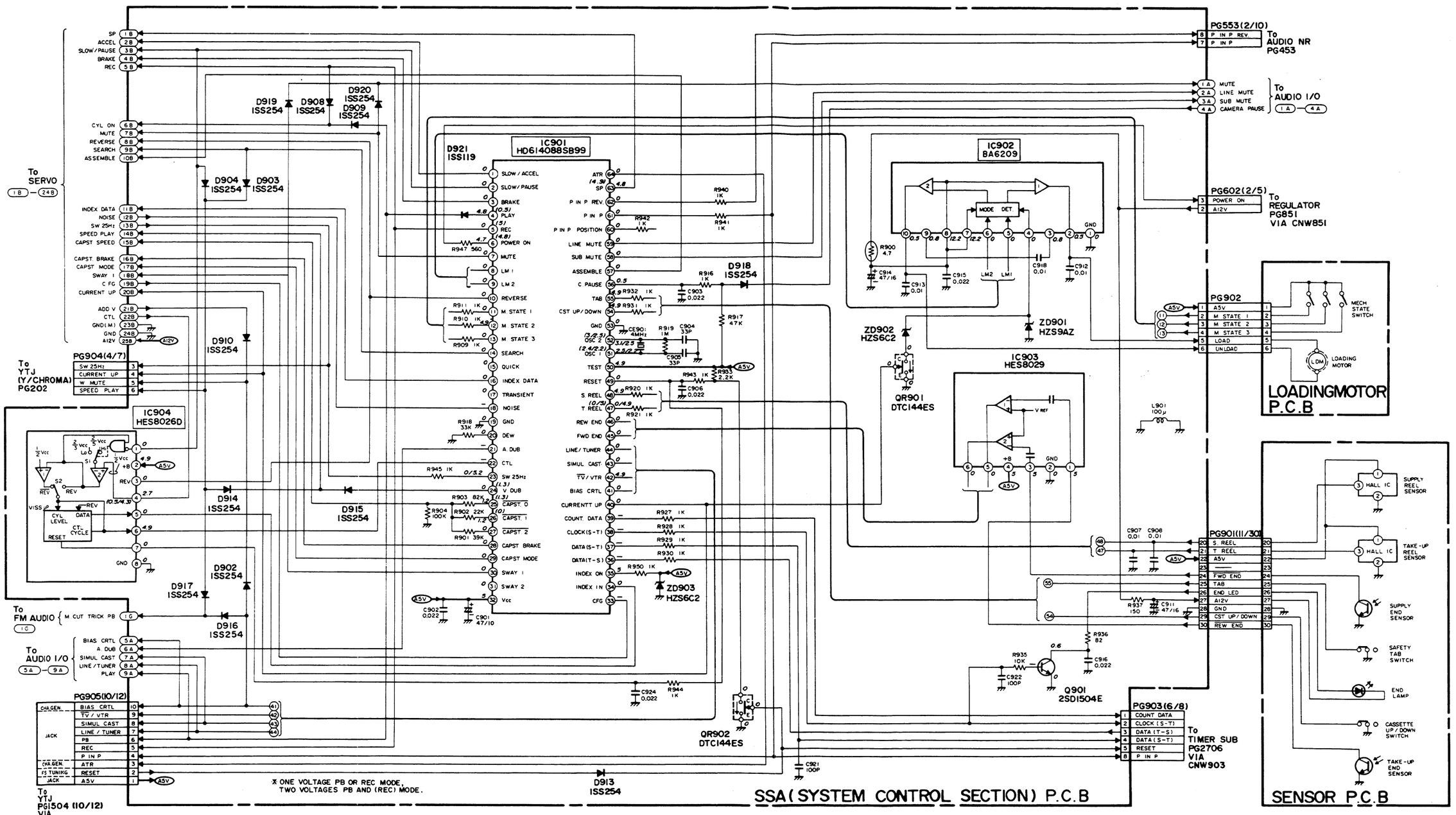
PG005

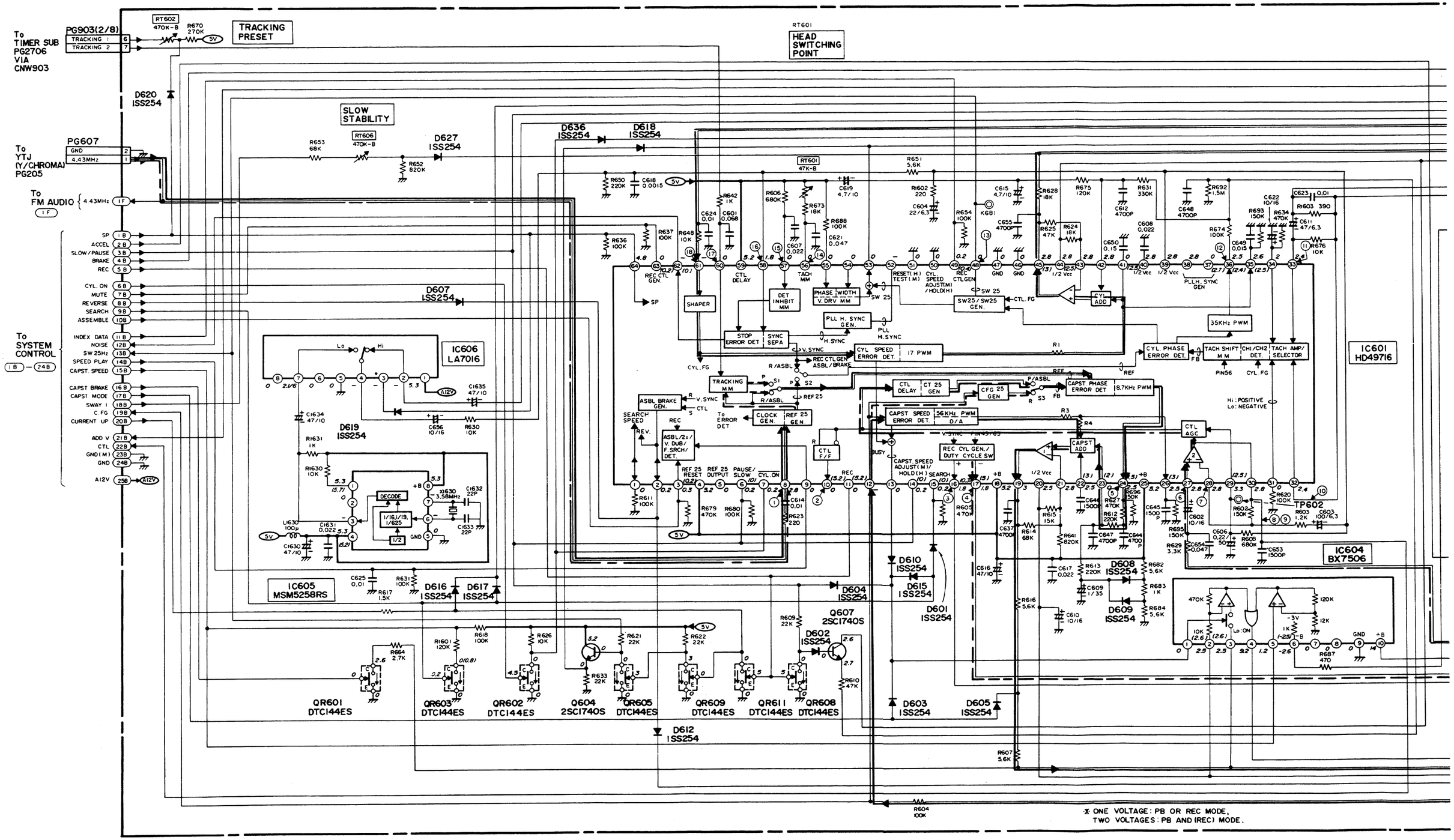
To SSA (SERVO) PG605

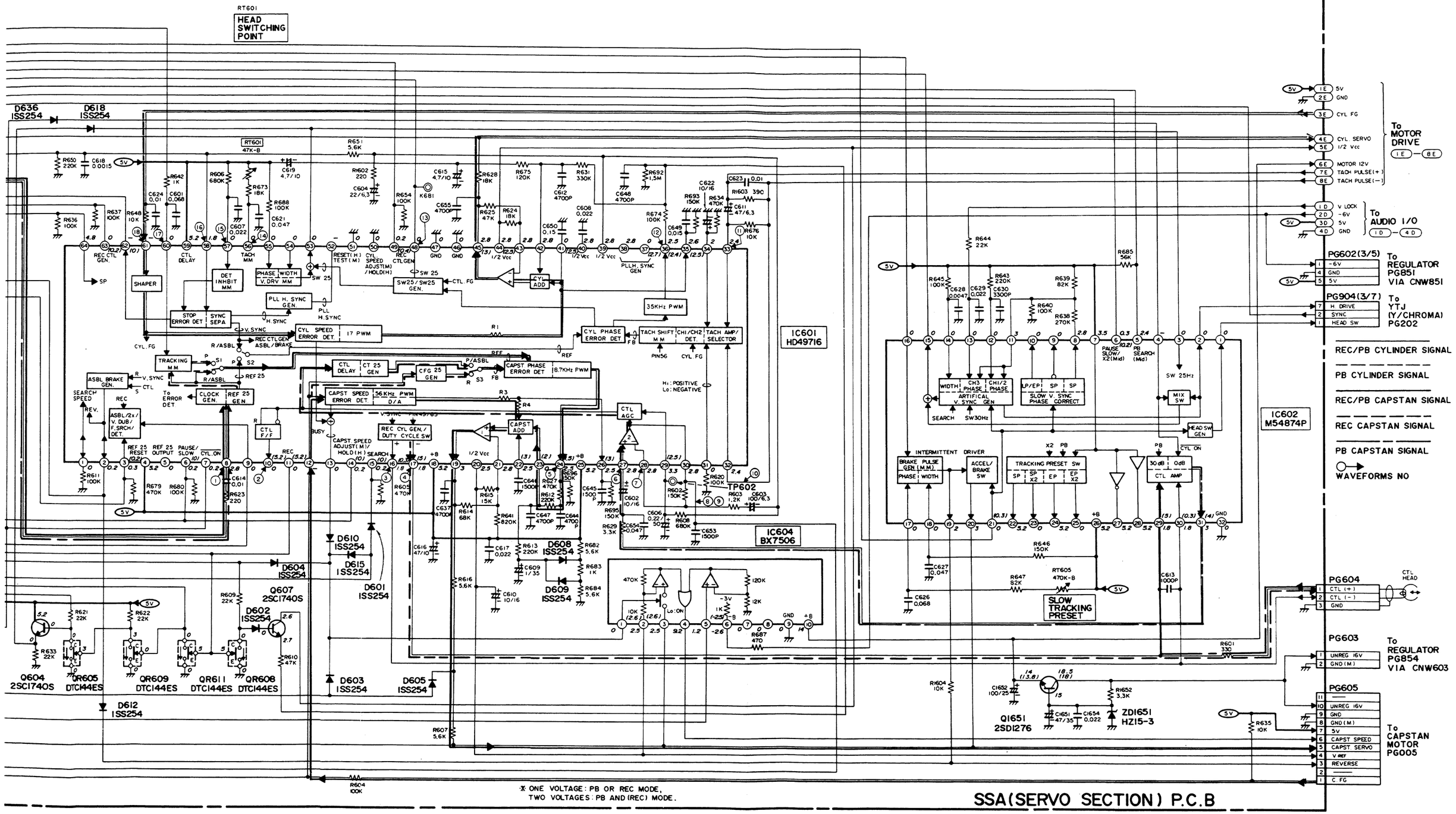
MR SENSOR.

NOTE : DTC144EK

CAPSTAN MOTOR P.C.B

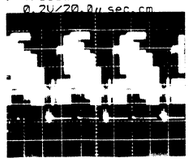

SSA(SYSTEM CONTROL SECTION) P.C.B
SENSOR P.C.B
LOADINGMOTOR P.C.B
IC901 HD614088S899
IC902 BA6209
IC903 HES8029
IC904 HES8026D
D921 ISS119
D910 ISS254
D914 ISS254
D915 ISS254
D902 ISS254
D917 ISS254
D916 ISS254
D913 ISS254
D918 ISS254
ZD902 HZS6C2
ZD901 HZS9AZ
ZD903 HZS6C2
QR901 DTC144ES
QR902 DTC144ES
Q901 2SD1504E
To SERVO
To YTJ (Y/CHROMA) PG202
To FM AUDIO
To AUDIO I/O
To AUDIO NR PG453
To REGULATOR PG851 VIA CNW851
To TIMER SUB PG2706 VIA CNW903
To YTJ PG1504 (10/12) VIA CNW905
PG553(2/10)
PG602(2/5)
PG902
PG904(4/7)
PG905(10/12)
PG903(6/8)
PG901(11/30)
MECH STATE SWITCH
LOADING MOTOR
SUPPLY REEL SENSOR
HALL IC
TAKE-UP REEL SENSOR
SUPPLY END SENSOR
SAFETY TAB SWITCH
END LAMP
CASSETTE UP/DOWN SWITCH
TAKE-UP END SENSOR
* ONE VOLTAGE PB OR REC MODE, TWO VOLTAGES PB AND (REC) MODE.


To TIMER SUB PG2706 VIA CNW903
PG903(2/8)
TRACKING 1
TRACKING 2
RT602 470K-B
R670 270K
5V
TRACKING PRESET
RT601
HEAD SWITCHING POINT
D620 ISS254
SLOW STABILITY
RT606 470K-B
R653 68K
R652 820K
D627 ISS254
D636 ISS254
D618 ISS254
To YTJ (Y/CHROMA) PG205
PG607
GND
4.43MHz
To FM AUDIO
4.43MHz
1F
SP
ACCEL
SLOW/PAUSE
BRAKE
REC
CYL. ON
MUTE
REVERSE
SEARCH
ASSEMBLE
To SYSTEM CONTROL
(18) – (24B)
INDEX DATA
NOISE
SW 25Hz
SPEED PLAY
CAPST. SPEED
CAPST BRAKE
CAPST MODE
SWAY 1
C FG
CURRENT UP
ADD V
CTL
GND(M)
GND
A12V
D607 ISS254
IC606 LA7016
Lo
Hi
C1635 47/10
A12V
C1634 47/10
C656 10/16
R630 10K
D619 ISS254
R1631 1K
R1630 10K
DECODE
X1630 3.58MHz
C1632 22P
C1633 22P
1/16,1/19, 1/625
1/2
L1630 100μ
C1631 0.022
C1630 47/10
IC605 MSM5258RS
C625 0.01
R617 1.5K
R631 100K
D616 ISS254
D617 ISS254
R650 220K
C618 0.0015
R642 1K
C624 0.01
C601 0.068
R606 680K
R673 18K
C607 0.022
R688 100K
C621 0.047
C619 4.7/10
R636 100K
R637 100K
R648 10K
R651 5.6K
R602 220
C604 22/6.3
R654 100K
K681
C615 4700P
R628 18K
R675 120K
C612 4700P
R631 330K
C648 4700P
R692 1.5M
C622 10/16
C623 0.01
R603 390
R693 150K
R634 470K
C611 47/6.3
R676 10K
R624 18K
C650 0.15
C608 0.022
R674 100K
C649 0.015
R625 47K
C655 4700P
SP
SHAPER
REC CTL GEN.
CTL DELAY
DET INHIBIT MM
TACH MM
PHASE WIDTH V.DRV MM
SW 25
RESET(H) TEST(M)
CYL SPEED ADJUST(M) /HOLD(H)
REC CTLGEN
SW 25
GND
GND
SW25/SW25 GEN.
CTL.FG
CYL ADD
PLL H. SYNC GEN.
PLL H.SYNC
PLL H. SYNC GEN
35KHz PWM
STOP ERROR DET
SYNC SEPA
H.SYNC
V.SYNC
CYL SPEED ERROR DET.
17 PWM
R1
CYL PHASE ERROR DET.
TACH SHIFT M M
CH1/CH2 DET.
TACH AMP/ SELECTOR
PIN56
CYL FG
CYL.FG
R/ASBL
REC CTL GEN ASBL/BRAKE
TRACKING M M
P
S1
S2
P/ASBL
REF
REF 25
CTL DELAY
CT 25 GEN
CFG 25 GEN
CAPST PHASE ERROR DET
8.7KHz PWM
FB
S3
R
Hi: POSITIVE
Lo: NEGATIVE
ASBL BRAKE GEN.
V.SYNC
CTL
S
SEARCH SPEED
REC
REV.
ASBL/2x/ V. DUB/ F.SRCH/ DET.
To ERROR DET
CLOCK GEN.
REF 25 GEN.
CAPST SPEED ERROR DET
56KHz PWM D/A
R3
R4
CTL AGC
CTL F/F
BUSY
CAPST. SPEED ADJUST(M)/ HOLD(H)
SEARCH
REC CYL GEN./ DUTY CYCLE SW
CAPST ADD
1/2 Vcc
REF 25 RESET
REF 25 OUTPUT
PAUSE/ SLOW
CYL. ON
R611 100K
C614 0.01
R623 220
R679 470K
R680 100K
R605 470K
C637 4700P
R615 15K
R614 68K
R641 820K
C644 1500P
C647 4700P
C644 4700P P
R627 470K
R612 220K
R696 50K
C645 1500P
R695 150K
R629 3.3K
C654 0.047
C602 10/16
C606 0.22/50
R608 680K
C653 1500P
R620 100K
TP502
R603 1.2K
C603 100/6.3
IC604 BX7506
D610 ISS254
D615 ISS254
D601 ISS254
C616 47/10
C617 0.022
R613 220K
C609 1/35
C610 10/16
D608 ISS254
D609 ISS254
R682 5.6K
R683 1K
R684 5.6K
R616 5.6K
470K
10K
-3V
1K
120K
12K
Lo: ON
R687 470
D604 ISS254
R609 22K
Q607 2SC1740S
D602 ISS254
R610 47K
R664 2.7K
R1601 120K
R618 100K
R626 10K
R621 22K
R622 22K
R633 22K
QR601 DTC144ES
QR603 DTC144ES
QR602 DTC144ES
Q604 2SC1740S
QR605 DTC144ES
QR609 DTC144ES
QR611 DTC144ES
QR608 DTC144ES
D612 ISS254
D603 ISS254
D605 ISS254
R607 5.6K
R604 100K
IC601 HD49716
ONE VOLTAGE: PB OR REC MODE,
TWO VOLTAGES: PB AND (REC) MODE.

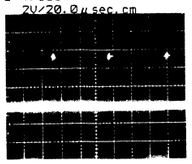

HEAD SWITCHING POINT
RT601
D636 ISS254
D618 ISS254
IC601 HD49716
IC602 M54874P
IC604 BX7506
TP602
SSA(SERVO SECTION) P.C.B
To MOTOR DRIVE
To AUDIO I/O
To REGULATOR PG851 VIA CNW851
To YTJ (Y/CHROMA) PG202
To REGULATOR PG854 VIA CNW603
To CAPSTAN MOTOR PG005
REC/PB CYLINDER SIGNAL
PB CYLINDER SIGNAL
REC/PB CAPSTAN SIGNAL
REC CAPSTAN SIGNAL
PB CAPSTAN SIGNAL
WAVEFORMS NO
SLOW TRACKING PRESET
* ONE VOLTAGE: PB OR REC MODE, TWO VOLTAGES: PB AND (REC) MODE.

DIGITAL PROCESS

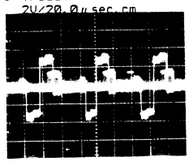
1 TP1001
0.2V/20.0μ sec.cm



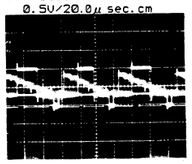
2 TP1004
2V/20.0μ sec.cm



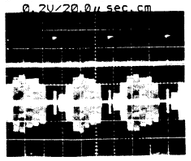
3 TP1007
2V/20.0μ sec.cm



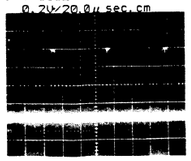
4 TP1008
0.5V/20.0μ sec.cm



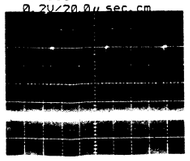
5 TP1012/TP1011
0.2V/20.0μ sec.cm



6 TP1012
0.2V/20.0μ sec.cm



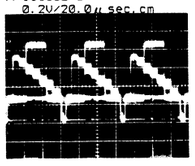
7 TP1013
0.2V/20.0μ sec.cm



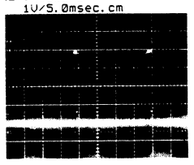
8 TP1014
0.5V/20.0μ sec.cm

10 IC1002-4
0.2V/20.0μ sec.cm

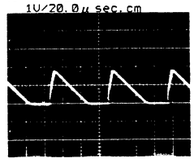
11 IC1002-5
0.2V/20.0μ sec.cm



12 IC1002-6
1V/5.0msec.cm

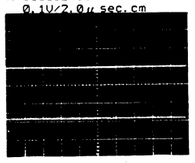


13 IC1002-7
1V/20.0μ sec.cm

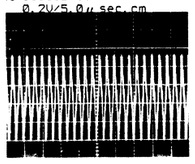


14 IC1002-9
1V/20.0μ sec.cm

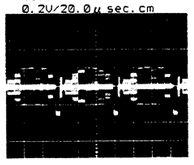
15 IC1002-10
0.1V/2.0μ sec.cm



16 IC1002-12
0.2V/5.0μ sec.cm

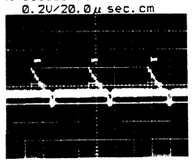


17 IC1002-14
0.2V/20.0μ sec.cm



18 IC1002-14
0.2V/20.0μ sec.cm

19 IC1002-16
0.2V/20.0μ sec.cm

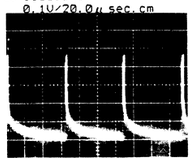


20 IC1002-16
0.2V/20.0μ sec.cm

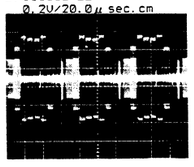
21 IC1002-17
0.1V/20.0μ sec.cm

22 IC1002-17
0.1V/20.0μ sec.cm

23 IC1002-19
0.1V/20.0μ sec.cm

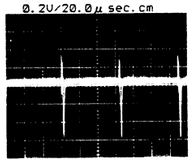


24 IC1002-22
0.2V/20.0μ sec.cm

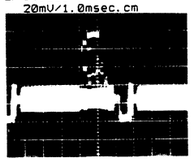


25 IC1002-24
0.1V/20.0μ sec.cm

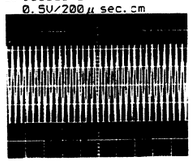
26 IC1002-25
0.2V/20.0μ sec.cm



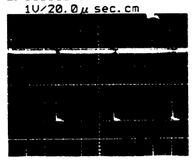
27 IC1003-3
20mV/1.0msec.cm



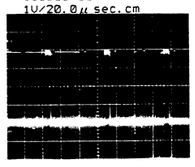
28 IC1003-6
0.5V/200μ sec.cm



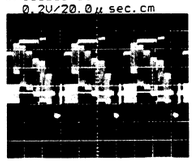
29 IC1003-9
1V/20.0μ sec.cm



30 IC1003-10
1V/20.0μ sec.cm

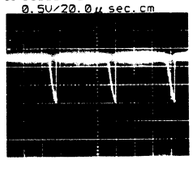


31 IC1003-11
0.2V/20.0μ sec.cm

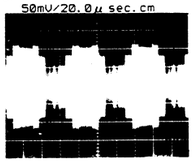


32 IC1004-1
0.5V/20.0μ sec.cm

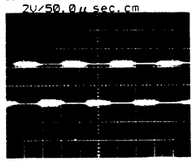
33 IC1004-2
0.5V/20.0μ sec.cm



34 IC1004-5
50mV/20.0μ sec.cm

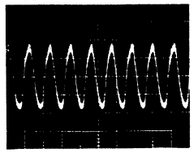


35 IC1004-9
2V/50.0μ sec.cm

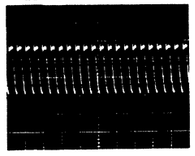


36 IC1004-11
0.2V/50.0μ sec.cm

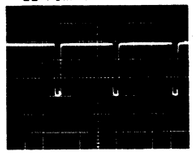
37 IC1004-13
0.1V/20.0μ sec.cm
EE/PinP



38 IC1004-19
0.2V/1.0μ sec.cm
EE/PinP

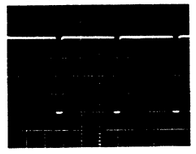


39 IC1004-27
2V/20.0μ sec.cm
EE/PinP



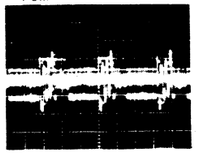
40 IC1004-29
0.5V/20.0μ sec.cm
EE/PinP

41 IC1004-30
1V/20.0μ sec.cm
EE/PinP

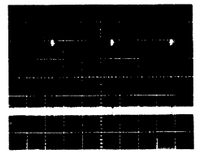


42 IC1005-1
0.1V/20.0μ sec.cm
EE

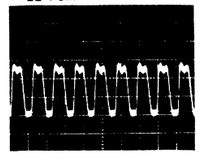
43 IC1005-1
0.1V/20.0μ sec.cm
PinP



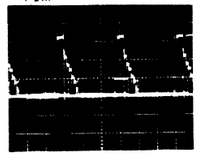
44 IC1005-3
0.2V/20.0μ sec.cm
EE/PinP



45 IC1005-5
0.1V/2.0msec.cm
EE/PinP

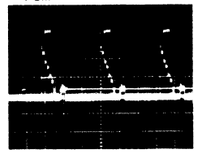


46 IC1005-8
0.1V/20.0μ sec.cm
PinP

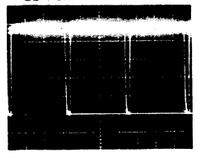


47 IC1005-12
0.2V/20.0μ sec.cm
PinP

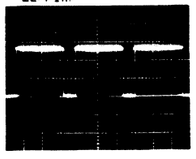
48 IC1005-14
0.5V/20.0μ sec.cm
PinP



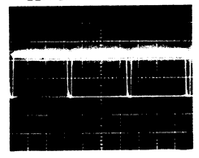
49 IC1005-15
1V/20.0μ sec.cm
EE/PinP



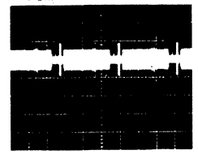
50 IC1005-16
1V/20.0μ sec.cm
EE/PinP



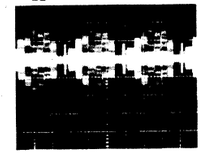
51 IC1005-17
2V/20.0μ sec.cm
EE/PinP



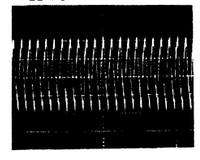
52 IC1005-18
0.2V/20.0μ sec.cm
PinP



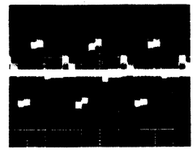
53 IC1005-18
0.2V/20.0μ sec.cm
EE



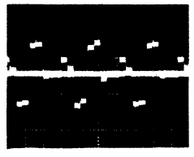
54 IC1005-20
0.1V/500nsec.cm
EE/PinP



55 IC1005-22
0.2V/20.0μ sec.cm
EE/PinP



56 IC1005-24
0.1V/20.0μ sec.cm
EE



57 IC1005-24
0.1V/20.0μ sec.cm
PinP

58 IC1006-1
0.5V/20.0μ sec.cm
EE-PinP

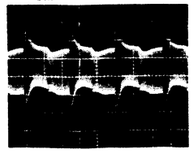
59 IC1006-3
0.1V/20.0μ sec.cm
PinP

60 IC1006-4
0.2V/20.0μ sec.cm
PinP

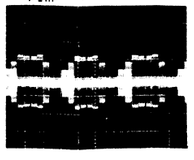
61 IC1006-5
0.1V/20.0μ sec.cm
PinP

62 IC1006-9
1V/50.0μ sec.cm
PinP

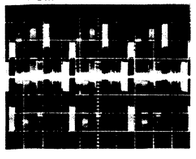
63 IC1006-11
0.2V/50.0μ sec.cm
PinP



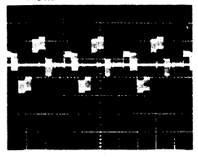
64 IC1006-15
0.1V/20.0μ sec.cm
PinP



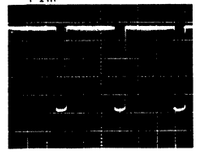
65 IC1006-20
0.2V/20.0μ sec.cm
PinP



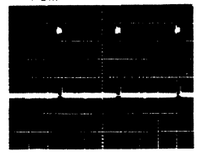
66 IC1006-21
0.5V/20.0μ sec.cm
PinP



67 IC1006-25
1V/20.0μ sec.cm
PinP



68 IC1006-29
0.2V/20.0μ sec.cm
PinP



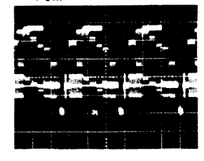
69 IC1006-30
1V/20.0μ sec.cm
PinP

70 IC1030-2
0.2V/20.0μ sec.cm
PinP

71 IC1030-3
0.2V/20.0μ sec.cm
PinP

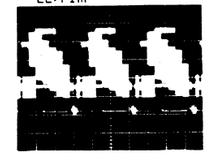
72 IC1030-5
0.2V/20.0μ sec.cm
PinP

73 IC1030-12
0.2V/20.0μ sec.cm
PinP

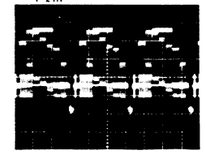


74 IC1030-15
0.2V/20.0μ sec.cm
PinP

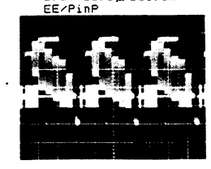
75 IC1031-1
0.2V/20.0μ sec.cm
EE/PinP



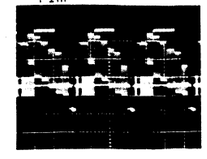
76 IC1031-2
20mV/20.0μ sec.cm
PinP



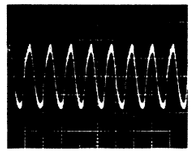
77 IC1031-6
0.5V/20.0μ sec.cm
EE/PinP



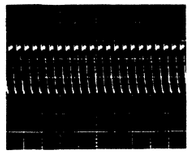
78 IC1031-7
0.2V/20.0μ sec.cm
PinP



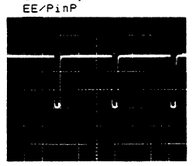
37 IC1004-13
0.1V/20.0μ sec.cm
EE/PinP



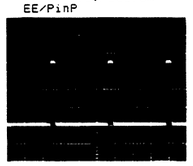
38 IC1004-19
0.2V/1.0μ sec.cm
EE/PinP



39 IC1004-27
2V/20.0μ sec.cm
EE/PinP

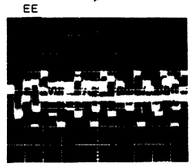


40 IC1004-29
0.5V/20.0μ sec.cm
EE/PinP

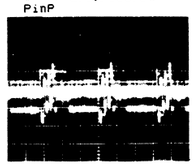


41 IC1004-30
1V/20.0μ sec.cm
EE/PinP

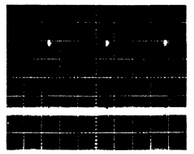
42 IC1005-1
0.1V/20.0μ sec.cm
EE



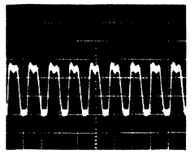
43 IC1005-1
0.1V/20.0μ sec.cm
PinP



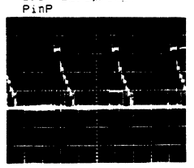
44 IC1005-3
0.2V/20.0μ sec.cm
EE/PinP



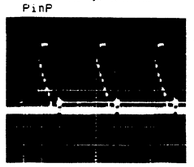
45 IC1005-5
0.1V/2.0msec.cm
EE/PinP



46 IC1005-8
0.1V/20.0μ sec.cm
PinP

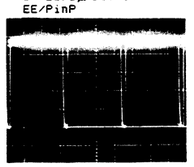


47 IC1005-12
0.2V/20.0μ sec.cm
PinP

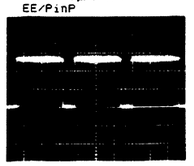


48 IC1005-14
0.5V/20.0μ sec.cm
PinP

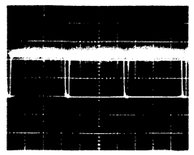
49 IC1005-15
1V/20.0μ sec.cm
EE/PinP



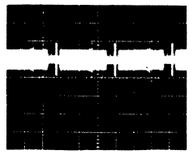
50 IC1005-16
1V/20.0μ sec.cm
EE/PinP



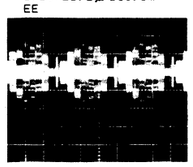
51 IC1005-17
2V/20.0μ sec.cm
EE/PinP



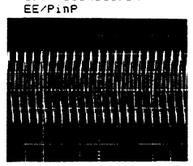
52 IC1005-18
0.2V/20.0μ sec.cm
PinP



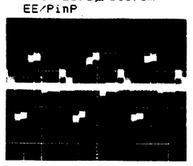
53 IC1005-18
0.2V/20.0μ sec.cm
EE



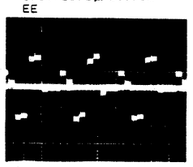
54 IC1005-20
0.1V/500nsec.cm
EE/PinP



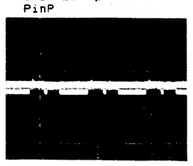
55 IC1005-22
0.2V/20.0μ sec.cm
EE/PinP



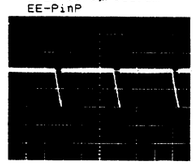
56 IC1005-24
0.1V/20.0μ sec.cm
EE



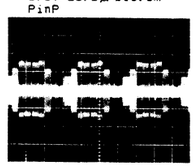
57 IC1005-24
0.1V/20.0μ sec.cm
PinP



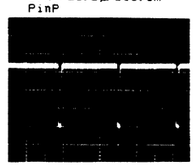
58 IC1006-1
0.5V/20.0μ sec.cm
EE-PinP



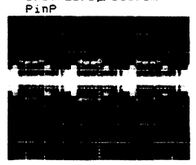
59 IC1006-3
0.1V/20.0μ sec.cm
PinP



60 IC1006-4
0.2V/20.0μ sec.cm
PinP

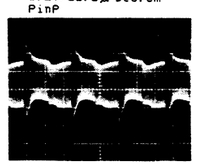


61 IC1006-5
0.1V/20.0μ sec.cm
PinP

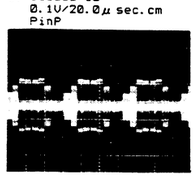


62 IC1006-9
1V/50.0μ sec.cm
PinP

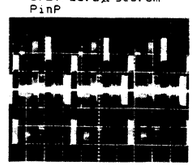
63 IC1006-11
0.2V/50.0μ sec.cm
PinP



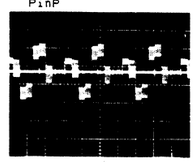
64 IC1006-15
0.1V/20.0μ sec.cm
PinP



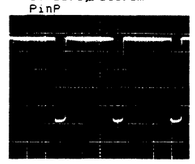
65 IC1006-20
0.2V/20.0μ sec.cm
PinP



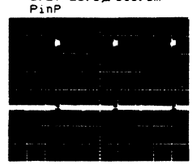
66 IC1006-21
0.5V/20.0μ sec.cm
PinP



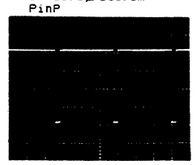
67 IC1006-25
1V/20.0μ sec.cm
PinP



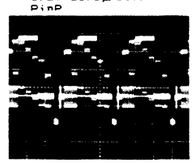
68 IC1006-29
0.2V/20.0μ sec.cm
PinP



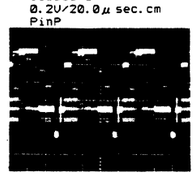
69 IC1006-30
1V/20.0μ sec.cm
PinP



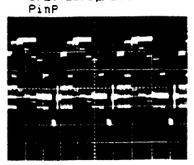
70 IC1030-2
0.2V/20.0μ sec.cm
PinP



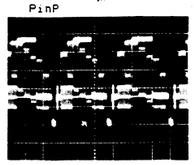
71 IC1030-3
0.2V/20.0μ sec.cm
PinP



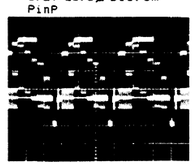
72 IC1030-5
0.2V/20.0μ sec.cm
PinP



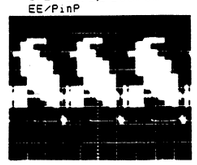
73 IC1030-12
0.2V/20.0μ sec.cm
PinP



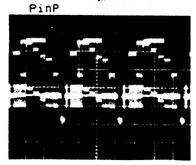
74 IC1030-15
0.2V/20.0μ sec.cm
PinP



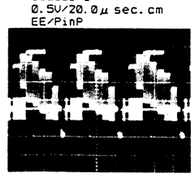
75 IC1031-1
0.2V/20.0μ sec.cm
EE/PinP



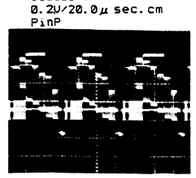
76 IC1031-2
20mV/20.0μ sec.cm
PinP



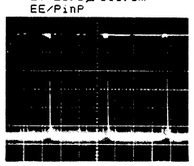
77 IC1031-6
0.5V/20.0μ sec.cm
EE/PinP



78 IC1031-7
0.2V/20.0μ sec.cm
PinP

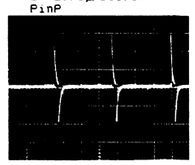


79 IC1031-8
2V/20.0μ sec.cm
EE/PinP

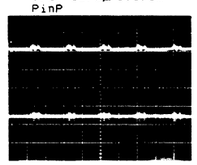


80 IC1031-9
0.2V/20.0μ sec.cm
EE/PinP

81 IC1031-10
2V/20.0μ sec.cm
PinP



82 IC1031-13
0.2V/20.0μ sec.cm
PinP



83 IC1031-14
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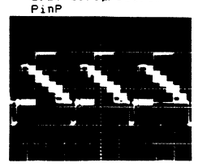
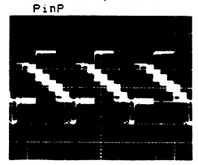
PinP

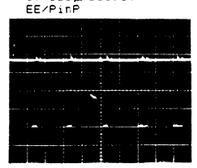


84 IC1031-16
0.5V/20.0μ sec.cm
PinP

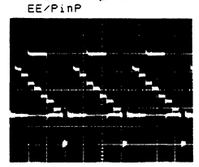


85 IC1011-8
1V/100μ sec.cm
PinP

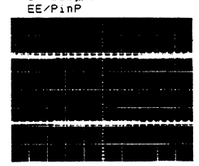
86 IC1011-8
1V/100μ sec.cm
EE/PinP



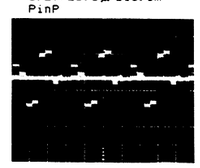
87 IC1011-15
0.2V/20.0μ sec.cm
EE/PinP



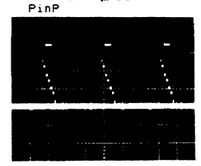
88 IC1012-5
1V/500μ sec.cm
EE/PinP



89 IC1012-15
0.2V/20.0μ sec.cm
PinP

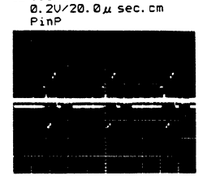


90 IC1025-3
0.2V/20.0μ sec.cm
PinP

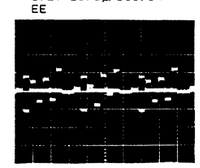


91 IC1026-3
0.2V/20.0μ sec.cm
EE

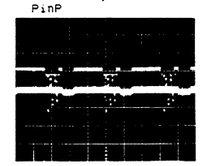
92 IC1026-3
0.2V/20.0μ sec.cm
PinP



93 IC1027-3
0.2V/20.0μ sec.cm
EE



94 IC1027-3
0.2V/20.0μ sec.cm
PinP



DIGITAL SUB P.C.B

IC1031 M51489L

IC1030 HD14053FP

IC1004 M51271SP

IC1002 HA11535MP

IC1003 NJM2217L

D1004 MA714T

D1005

D1006

PG1403 / PG1002

JACK	9	
	8	
	7	GND
	6	EE VIDEO
CHARACTER GENERATOR	5	GND
	4	PB VIDEO
	3	12V
JACK	2	GND
	1	VIDEO

To YTJ VIA CNW1002

PG1001

To REGULATOR PG853 VIA CNW853	1	5V
	2	GND
	3	GND

PG1003(3/6)

To TIMER SUB PG2701 VIA CNW1003	5	—
	4	V. LOCK
	1	MULTI4

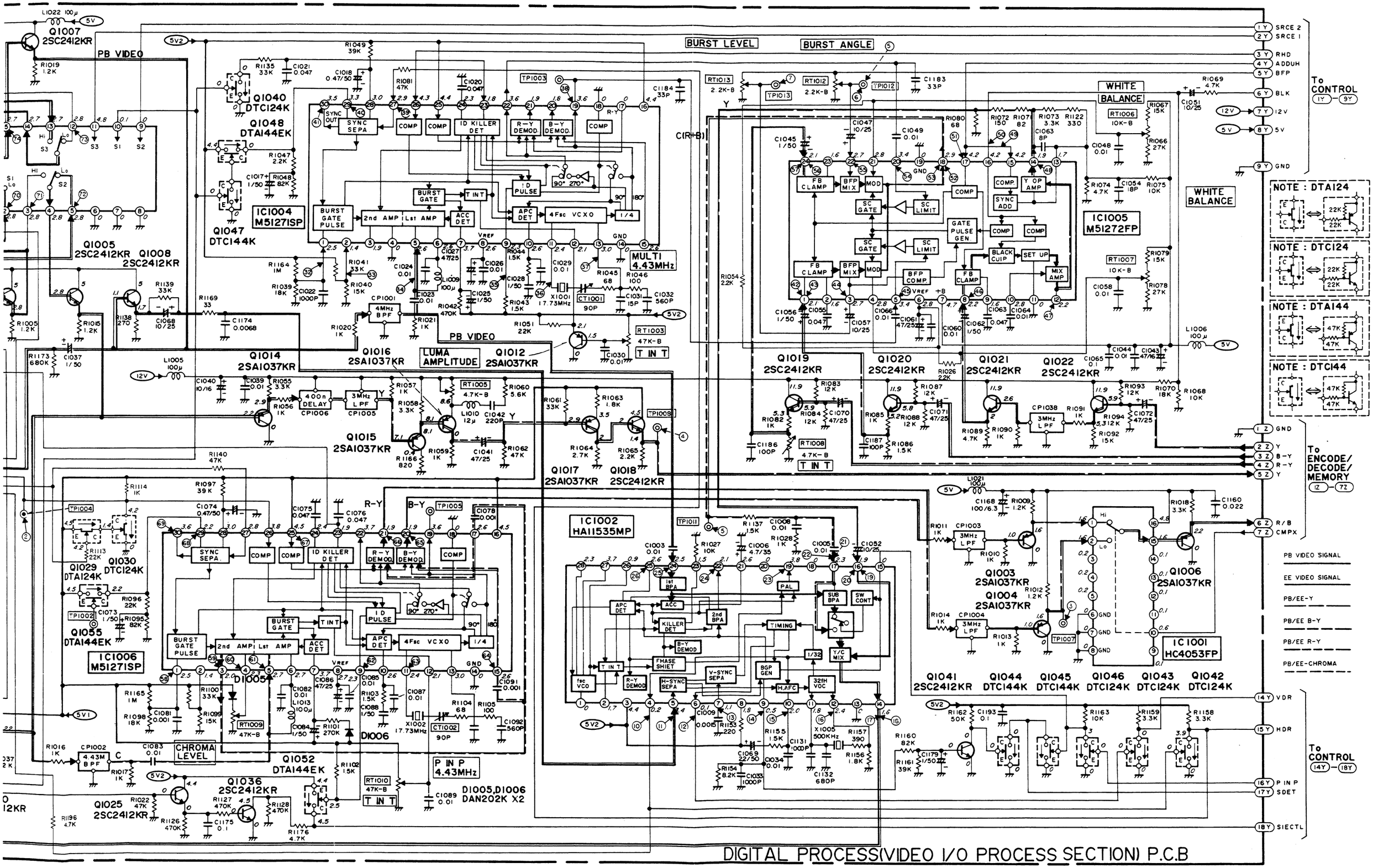
To CONTROL (10Y)–(13Y)

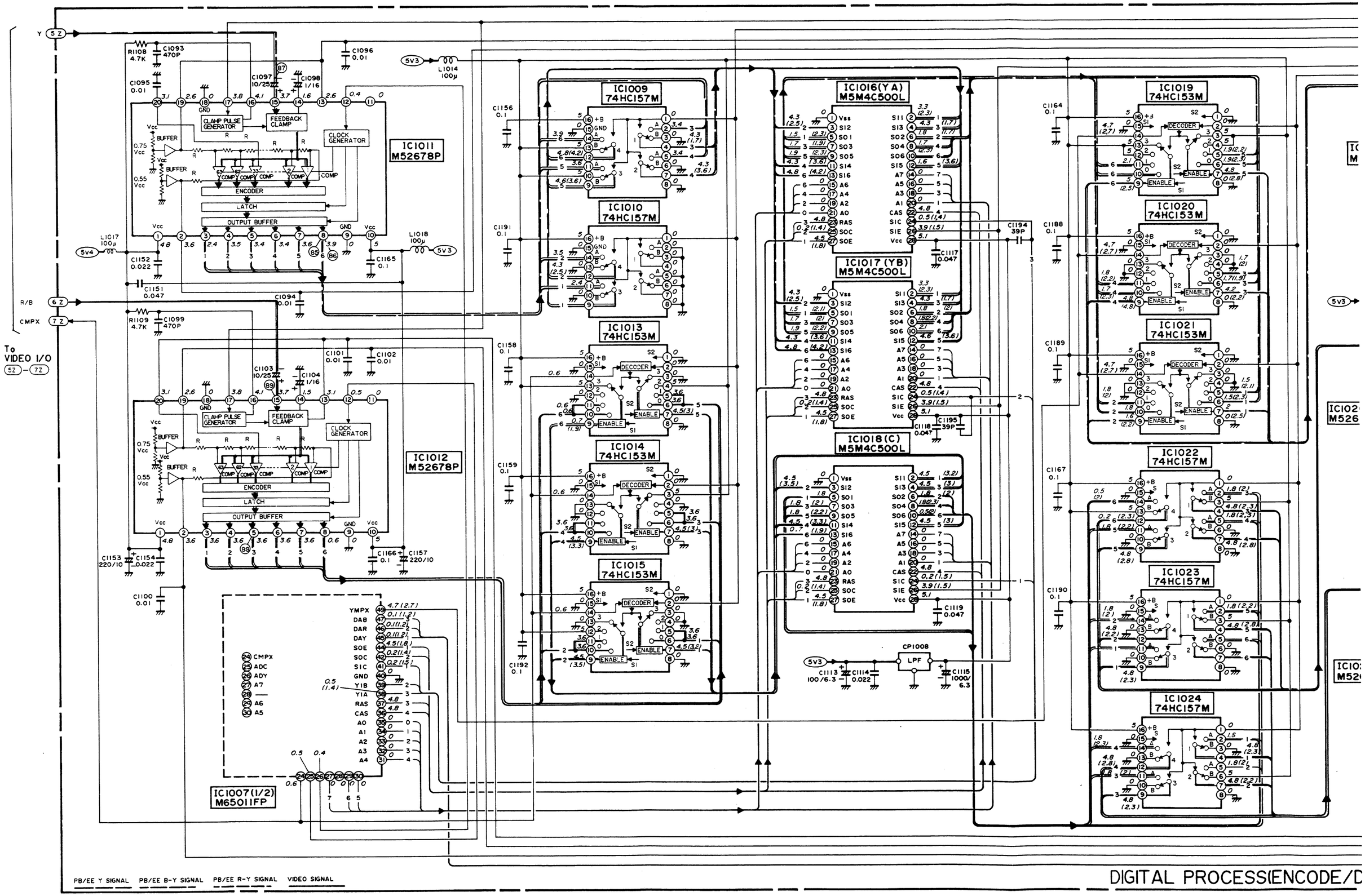
SWMM (10Y)
HDW (11Y)
C.SYNC (12Y)
VDW (13Y)

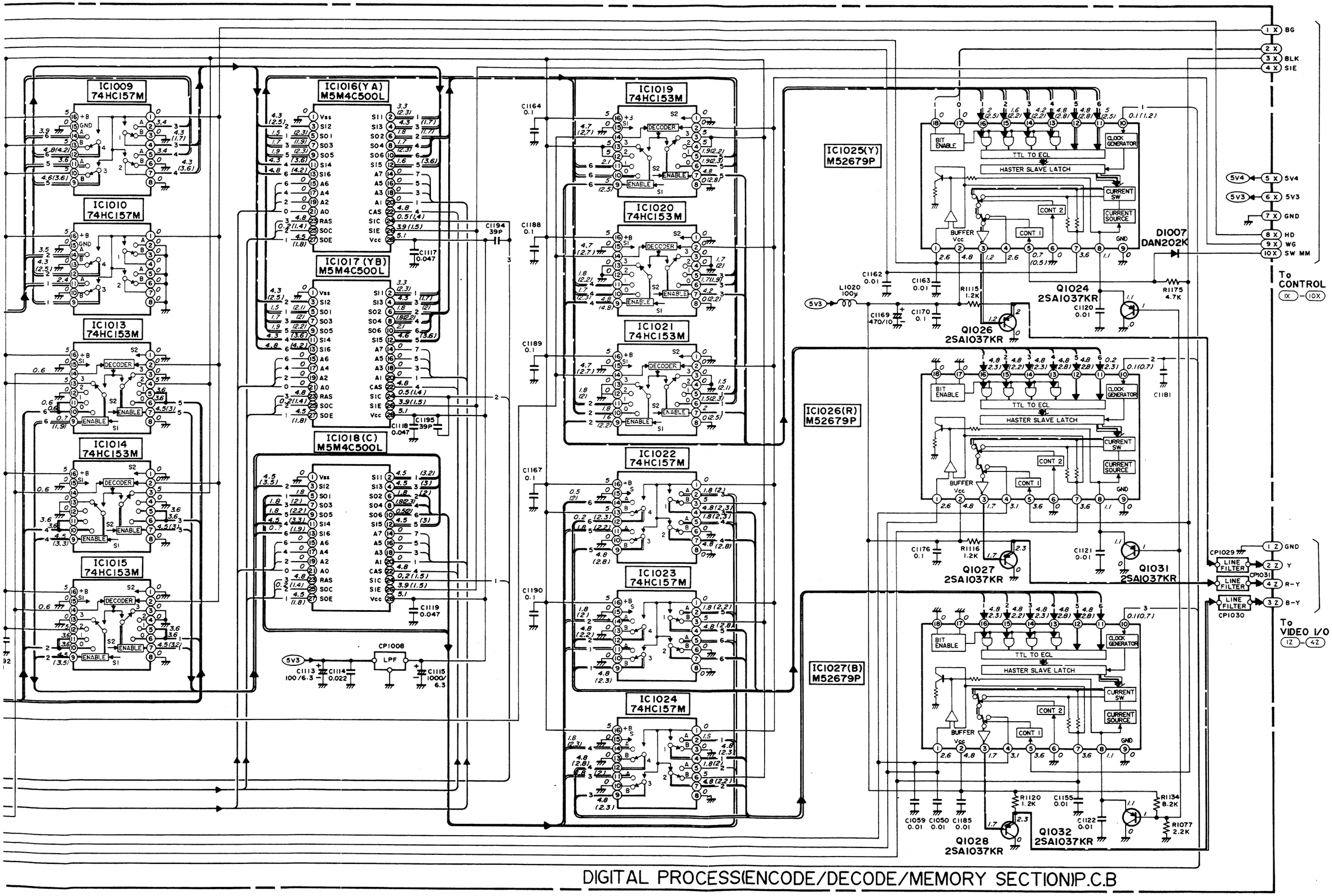
Q1007 2SC2412KR
Q1005 2SC2412KR
Q1008 2SC2412KR
Q1002 2SC2412KR
Q1034 FMW2-T
Q1009 2SC2412KR
Q1035 FMW1-T
Q1193 DTA124K
Q1194 DTA124K
Q1191 DTC144K
Q1192 DTC124K
Q1040 DTC124K
Q1048 DTA144EK
Q1047 DTC144K
Q1014 2SA1037KR
Q1016 2SA1037KR
Q1012 2SA1037KR
Q1015 2SA1037KR
Q1017 2SA1037KR
Q1018 2SC2412KR
Q1019 2SC2412KR
Q1029 DTA124K
Q1030 DTC124K
Q1055 DTA144EK
Q1052 DTA144EK
Q1036 2SC2412KR
Q1025 2SC2412KR
Q1050 2SC2412KR
Q1010 2SC2412KR

PB VIDEO
PB
EE
OUT
AGC LEVEL
SYNC POSITION
CHROMA LEVEL
LUMA AMPLITUDE
P IN P 4.43MHz
T IN T
BURST LEVEL
MULTI 4.43MHz
DIGITAL PR

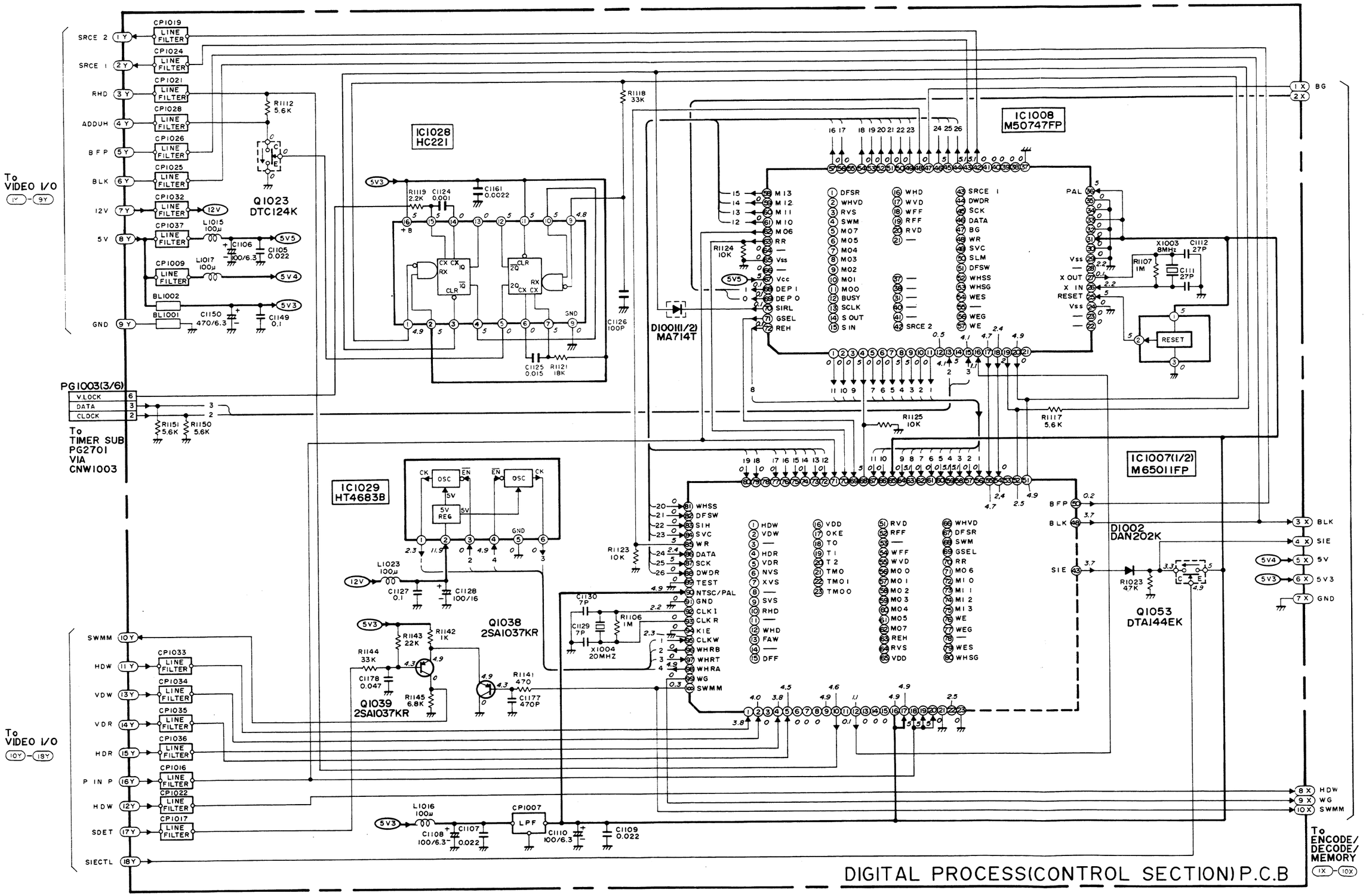
DIGITAL PROCESS(VIDEO I/O PROCESS SECTION) P.C.B

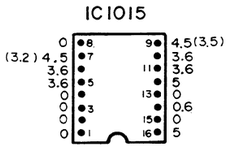


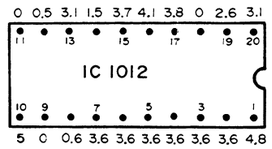

IC1011 M52678P
IC1012 M52678P
IC1007(1/2) M65011FP
IC1009 74HC157M
IC1010 74HC157M
IC1013 74HC153M
IC1014 74HC153M
IC1015 74HC153M
IC1016(YA) M5M4C500L
IC1017 (YB) M5M4C500L
IC1018(C) M5M4C500L
IC1019 74HC153M
IC1020 74HC153M
IC1021 74HC153M
IC1022 74HC157M
IC1023 74HC157M
IC1024 74HC157M
CLAMP PULSE GENERATOR
FEEDBACK CLAMP
CLOCK GENERATOR
BUFFER
COMP
ENCODER
LATCH
OUTPUT BUFFER
DECODER
ENABLE
LPF
To VIDEO I/O
PB/EE Y SIGNAL
PB/EE B-Y SIGNAL
PB/EE R-Y SIGNAL
VIDEO SIGNAL
DIGITAL PROCESS(ENCODE/D

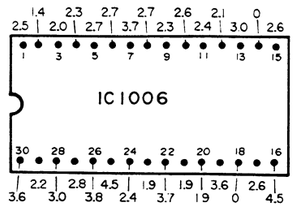


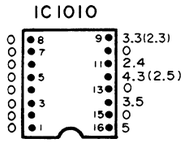
DIGITAL PROCESS(ENCODE/DECODE/MEMORY SECTION)P.C.B

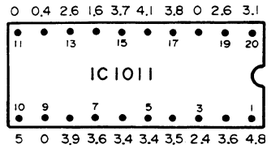

To VIDEO I/O (1Y)-(9Y)
SRCE 2 (1Y)
SRCE 1 (2Y)
RHD (3Y)
ADDUH (4Y)
BFP (5Y)
BLK (6Y)
12V (7Y)
5V (8Y)
GND (9Y)
CP1019 LINE FILTER
CP1024 LINE FILTER
CP1021 LINE FILTER
CP1028 LINE FILTER
CP1026 LINE FILTER
CP1025 LINE FILTER
CP1032 LINE FILTER
CP1037 LINE FILTER
CP1009 LINE FILTER
BL1002
BL1001
R1112 5.6K
Q1023 DTC124K
L1015 100µ
L1017 100µ
C1106 100/6.3
C1105 0.022
C1150 470/6.3
C1149 0.1
12V
5V5
5V4
5V3
IC1028 HC221
R1119 2.2K
C1124 0.001
C1161 0.0022
C1125 0.015
R1121 18K
C1126 100P
R1118 33K
D1001(1/2) MA714T
IC1008 M50747FP
R1124 10K
R1125 10K
R1117 5.6K
X1003 8MHz
C1112 27P
R1107 1M
C111 27P
RESET
IC1007(1/2) M65011FP
PG1003(3/6)
V.LOCK 6
DATA 3
CLOCK 2
R1151 5.6K
R1150 5.6K
To TIMER SUB PG2701 VIA CNW1003
IC1029 HT46838
OSC
5V REG
L1023 100µ
C1127 0.1
C1128 100/16
R1123 10K
C1130 7P
C1129 7P
R1106 1M
X1004 20MHZ
Q1038 2SA1037KR
R1142 1K
R1143 22K
R1144 33K
C1178 0.047
R1145 6.8K
Q1039 2SA1037KR
R1141 470
C1177 470P
L1016 100µ
C1108 100/6.3
C1107 0.022
CP1007 LPF
C1110 100/6.3
C1109 0.022
D1002 DAN202K
R1023 4.7K
Q1053 DTA144EK
SWMM (10Y)
HDW (11Y)
VDW (13Y)
VDR (14Y)
HDR (15Y)
P IN P (16Y)
HDW (12Y)
SDET (17Y)
SIECTL (18Y)
CP1033 LINE FILTER
CP1034 LINE FILTER
CP1035 LINE FILTER
CP1036 LINE FILTER
CP1016 LINE FILTER
CP1022 LINE FILTER
CP1017 LINE FILTER
To VIDEO I/O (10Y)-(18Y)
1X BG
2X
3X BLK
4X SIE
5X 5V
6X 5V3
7X GND
8X HDW
9X WG
10X SWMM
To ENCODE/ DECODE/ MEMORY (1X)-(10X)
DIGITAL PROCESS(CONTROL SECTION) P.C.B

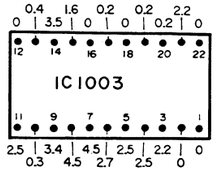

IC1015

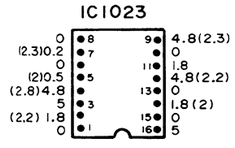

IC 1012


IC1006


IC1010


IC1011


IC1003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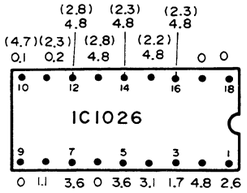
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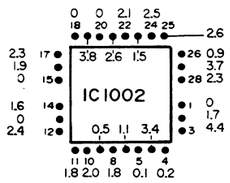
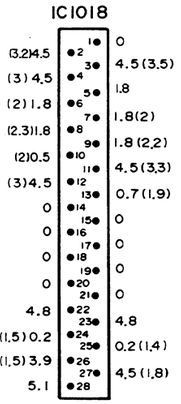

IC1002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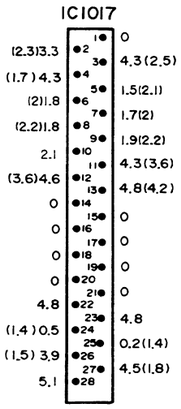
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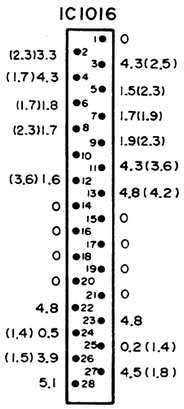
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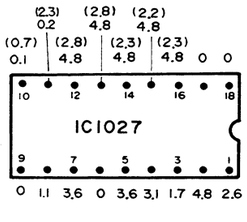
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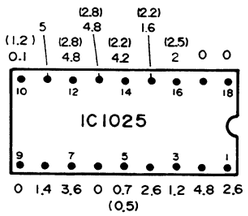
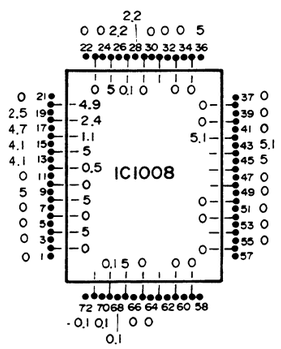

IC1025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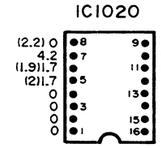
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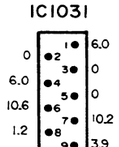
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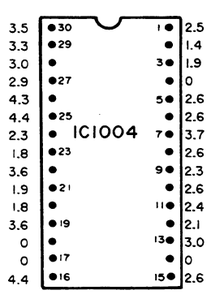
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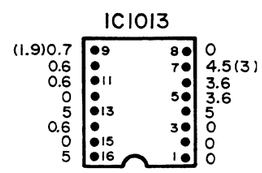
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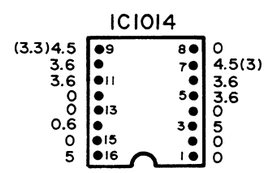
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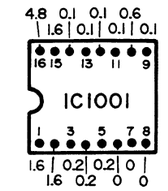
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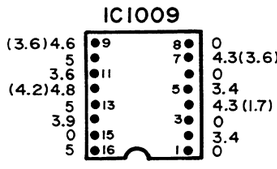
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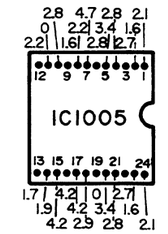
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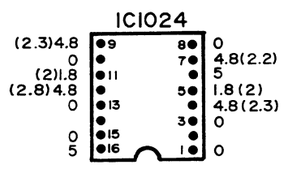
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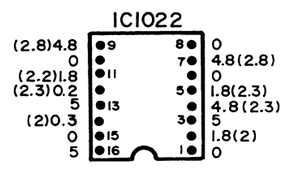
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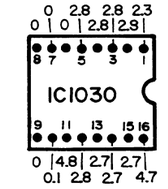
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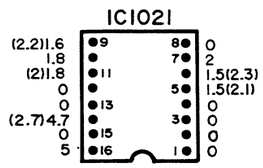
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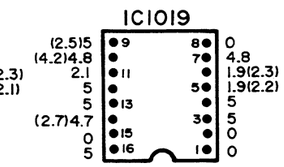
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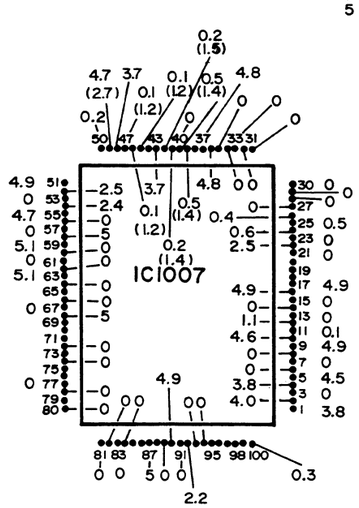
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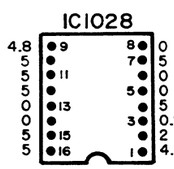
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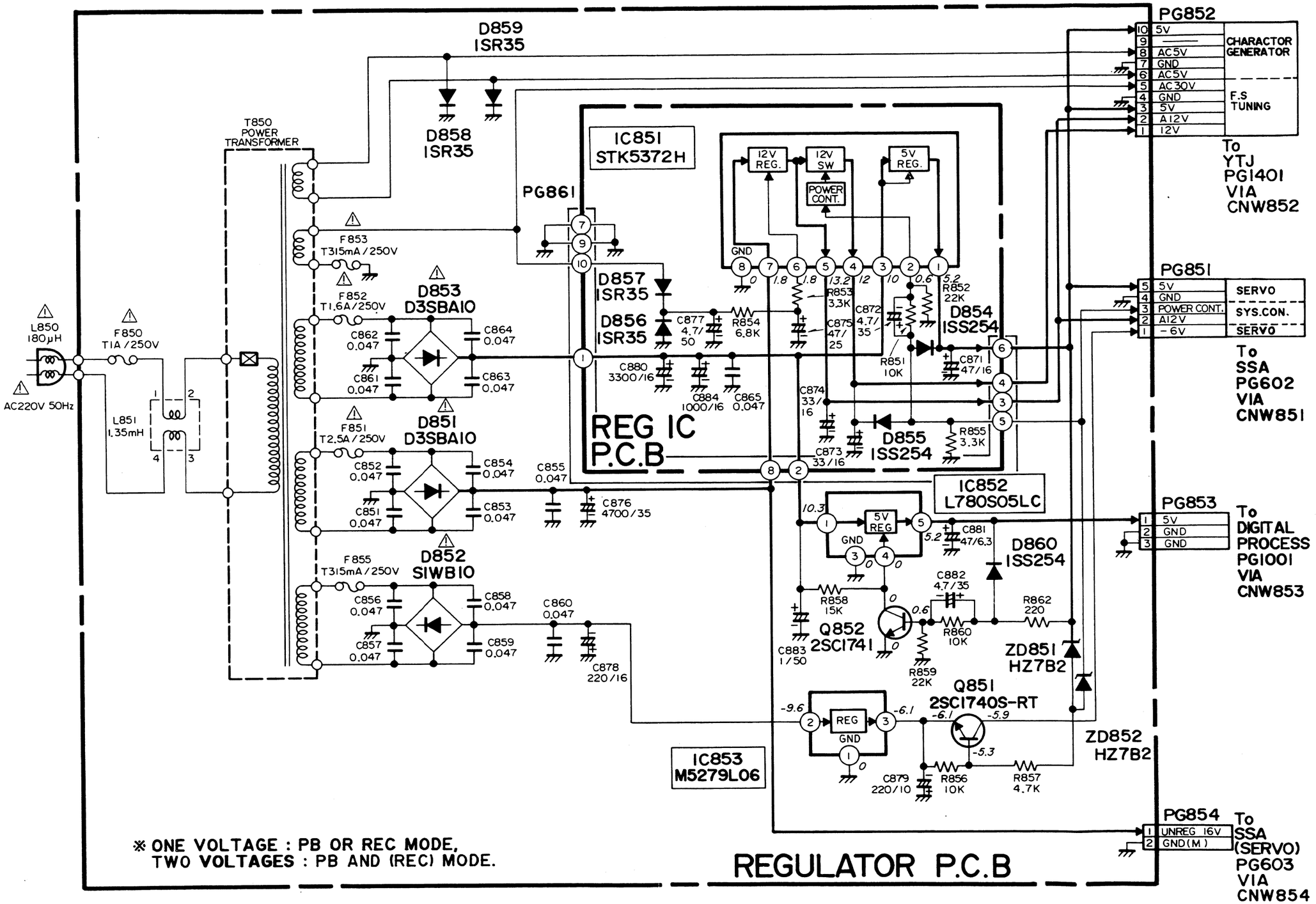
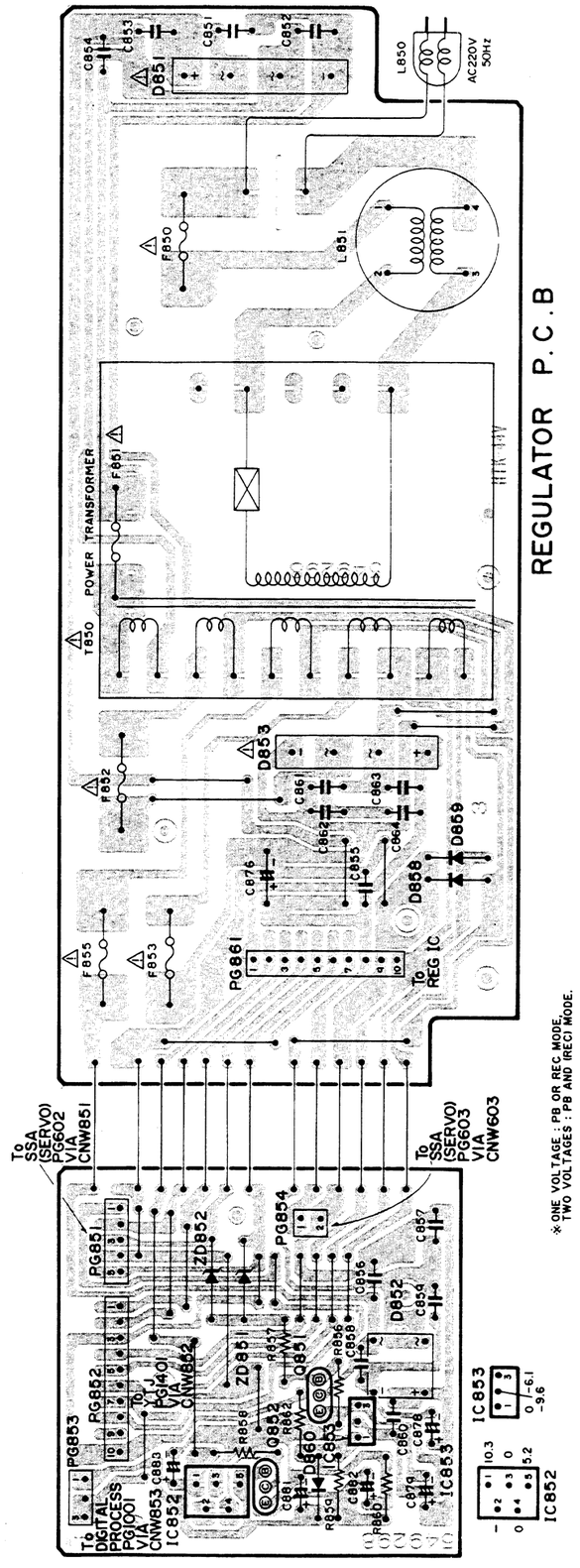

D859 ISR35
D858 ISR35
T850 POWER TRANSFORMER
IC851 STK5372H
PG861
12V REG.
12V SW
POWER CONT.
5V REG.
GND
F853 T315mA/250V
F852 T1.6A/250V
D853 D3SBA10
D857 ISR35
D856 ISR35
C877 4.7/50
R854 6.8K
R853 3.3K
C872 4.7/35
C875 47/25
R852 22K
D854 ISS254
R851 10K
C871 47/16
C880 3300/16
C884 1000/16
C865 0.047
C874 33/16
C873 33/16
D855 ISS254
R855 3.3K
L850 180μH
AC220V 50Hz
F850 T1A/250V
L851 1.35mH
C862 0.047
C861 0.047
C864 0.047
C863 0.047
F851 T2.5A/250V
D851 D3SBA10
C852 0.047
C851 0.047
C854 0.047
C853 0.047
C855 0.047
C876 4700/35
REG IC P.C.B
IC852 L780S05LC
5V REG
C881 47/6.3
D860 ISS254
C882 4.7/35
R858 15K
Q852 2SC1741
C883 1/50
R862 220
R860 10K
R859 22K
ZD851 HZ7B2
Q851 2SC1740S-RT
ZD852 HZ7B2
F855 T315mA/250V
D852 SIWB10
C856 0.047
C857 0.047
C858 0.047
C859 0.047
C860 0.047
C878 220/16
IC853 M5279L06
REG
GND
C879 220/10
R856 10K
R857 4.7K
PG852
10 5V
9 ——
8 AC5V
7 GND
6 AC5V
5 AC30V
4 GND
3 5V
2 A12V
1 12V
CHARACTOR GENERATOR
F.S TUNING
To YTJ PG1401 VIA CNW852
PG851
5 5V
4 GND
3 POWER CONT.
2 A12V
1 -6V
SERVO
SYS.CON.
SERVO
To SSA PG602 VIA CNW851
PG853
1 5V
2 GND
3 GND
To DIGITAL PROCESS PG1001 VIA CNW853
PG854
1 UNREG 16V
2 GND(M)
To SSA (SERVO) PG603 VIA CNW854
※ ONE VOLTAGE : PB OR REC MODE,
TWO VOLTAGES : PB AND (REC) MODE.
REGULATOR P.C.B



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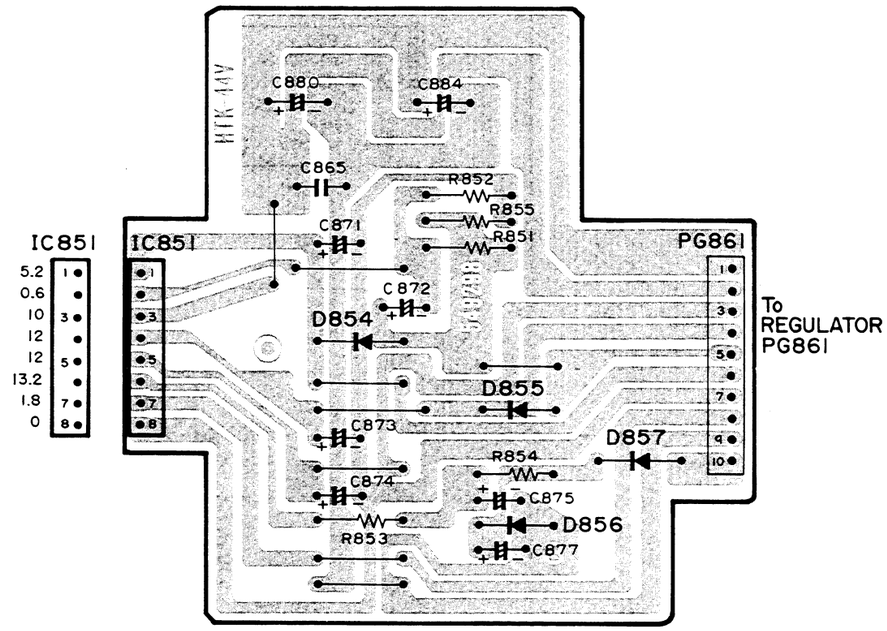

REG IC P.C.B

※ ONE VOLTAGE : PB OR REC MODE,
TWO VOLTAGES : PB AND (REC) MODE.

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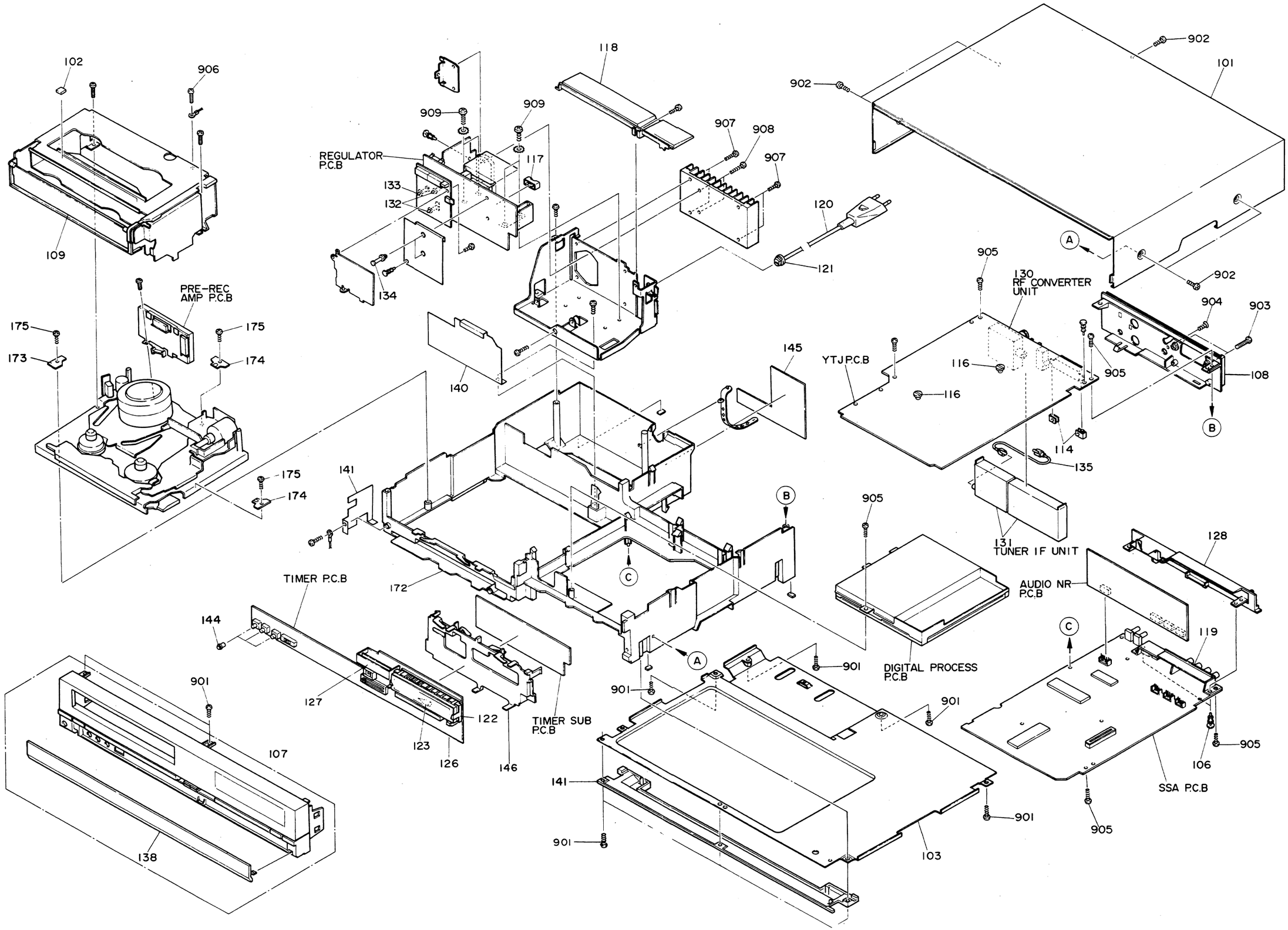
102
906
109
PRE-REC AMP P.C.B
175
173
174
175
175
174
118
909
909
907
908
907
REGULATOR P.C.B
117
133
132
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TIMER P.C.B
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TIMER SUB P.C.B
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902
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RF CONVERTER UNIT
904
903
YTJ P.C.B
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905
108
B
114
135
905
131
TUNER IF UNIT
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AUDIO NR P.C.B
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DIGITAL PROCESS P.C.B
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106
SSA P.C.B
905

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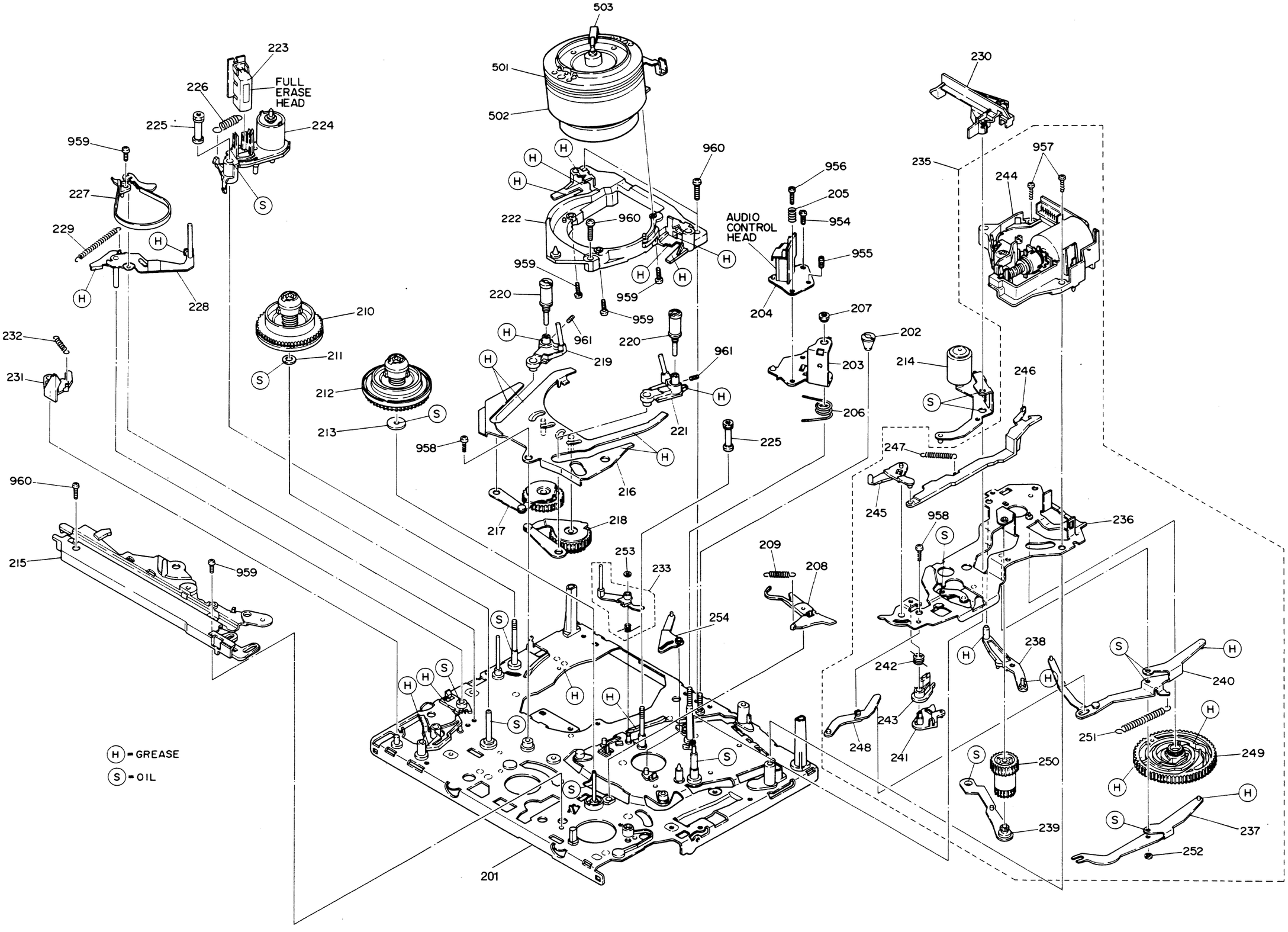
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AUDIO CONTROL HEAD
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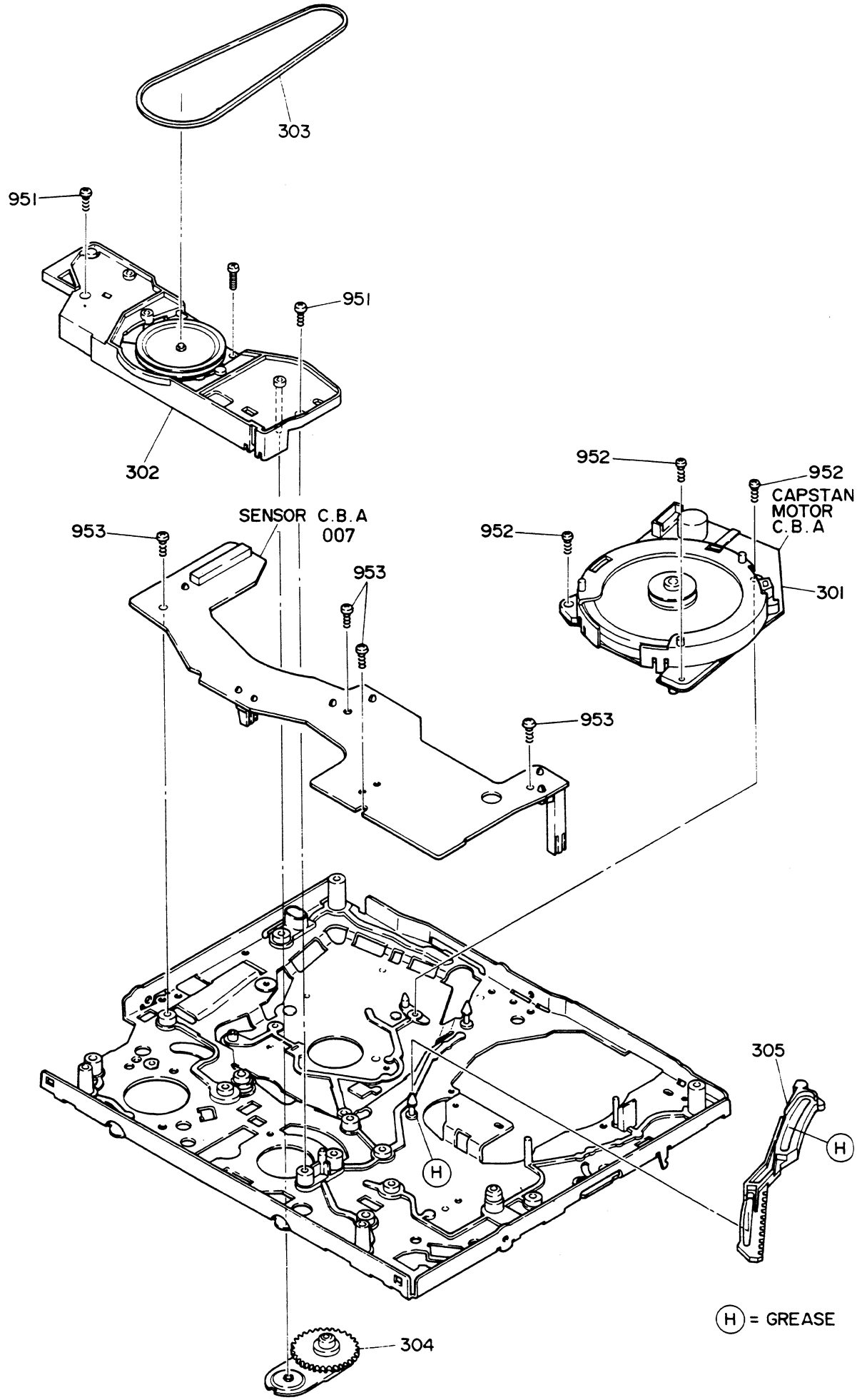
S = OIL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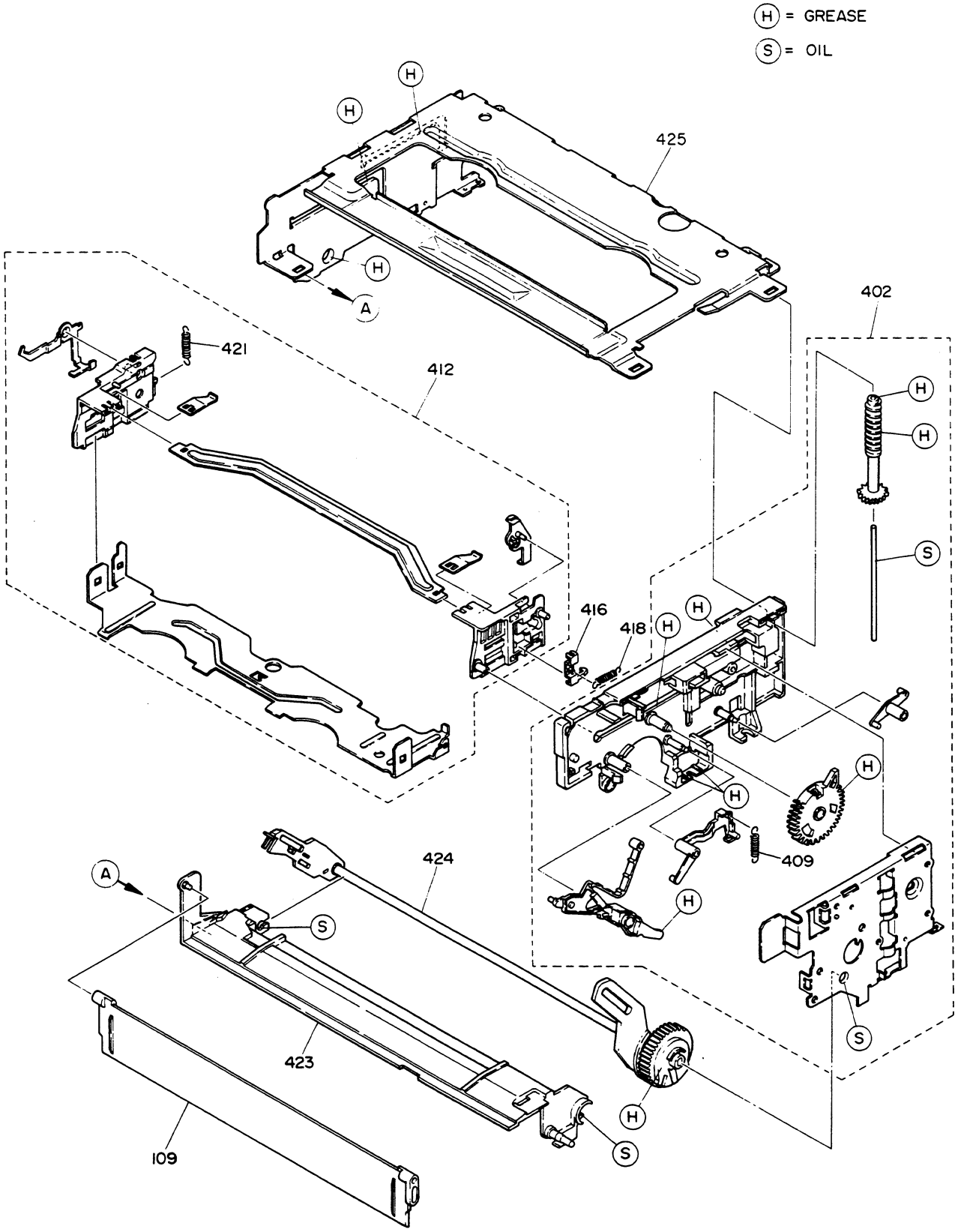
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Pos.-Nr. Item No. No. Pos.	Bestell-Nr. List Part No. No. di codice		Bestell-Bezeichnung / Description / Designazione dell' articolo
Baugruppen / Components / Elemento costruttivo			
LV 701	353-90134.922		**Aussteuerungsanzeige, kpl. LI 2242 HD** record level display, assy indicazioni di comando, completo
130	291-90134.928		**HF-Konverter** HF-converter AF-convertitore
IR 701	398-90125.972		**IR-Empfänger** IR receiver recevitôre infrarosso
803	263-90129.919		**IR-Geber FB 500** IR transmitter trasmettitore IR
008	398-90138.941T	M	**Ltpl.-Digitalverarbeitung FDG** digital processing P.C.B. piastra p. d'elaborazione digitale
005,J 771	398-90136.923		**Ltpl.-Kopfhörerbuchse** headphone socket piastra p.presa per cuffia
010	398-90135.969		**Leiterplatte-MTR** MTR P.C.B. piastra MTR
014	398-90134.939		**Ltpl.-Vorverstärker** preamplifier P.C.B. piastra preamplificatore
131	260-90129.948		**Tuner-ZF-Einheit** tuner IF unit tuner FI unitâ
Moduln / Module / Modulo			
IC 604	349-90135.984		Modul BX 7506
IC 204	349-90125.944		Modul HES 8020 A
IC 903	349-90134.972		TAD-Modul HES 8029
IC 904	349-90137.984		VIS-Modul BX 7570 *
IC 904	349-90132.906		VIS-Modul HES 8026 D *
Q 502,802	346-90071.906		2 SA 673 C
Q 516	346-90070.963		2 SA 844 CD
Q 518,801	346-90083.954		2 SA 844 CD-TB
Q 1003/04/06/12, Q 1014-17/24/26-28, Q 1031/32/38/39	346-90130.983		2 SA 1037 KFRS
Q 301	346-90125.959		2 SA 1374 C
Q 1401,1530/31	346-90129.943		2 SA 1390 C
Q 1403	346-90076.911		2 SC 1740 S
Q 401L	346-90137.939		2 SC 1740 S (RS)
Q 401R,402,701/04	346-90125.962		2 SC 1740 S (RS)
Q 202/03,503,604, Q 607,803,1402/07, Q 1501/32/80/81, Q 1801-1806	346-90105.900		2 SC 1740 SR
Q 204	346-90105.903		2 SC 1740 SR
Q 851,852	346-90137.943		2 SC 1741
Q 1001/02/05/07, Q 1008-10,1018-22, Q 1025/36/41/50	344-90100.969	SMD	2 SC 2412 KBRST
Q 403L,403R,505L, Q 505R,519	346-90134.983		2 SC 2784 E
Q 201	346-90125.958		2 SC 3391 C
Q 517	346-90136.909		2 SD 468 C
Q 1611	346-90070.970		2 SD 1266 A-P
Q 804,1651	346-90135.963		2 SD 1276
Q 901	346-90114.903		2 SD 1504 E
Q 1029,1193/94	344-90100.954	SMD	DTA 124 K (15)
Q 1048/52/53/55	344-90117.975	SMD	DTA 144 EK (16)
QR 1501	346-90136.936		DTA 144 ES-T
QR 1403,1404	346-90070.972		DTC 124 ES
Q 501/07/11/20, Q 1405/06/08 QR 601-03/08/09/11 QR 901/02,1502/70	346-90130.912		DTC 144 ES
Q 1023/30/40/42, Q 1043/46,1192	344-90100.955	SMD	DTC 124 K (25)

Pos.-Nr / Item No. / No. Pos	Bestell-Nr. / List Part No / No. di codice		Bestell-Bezeichnung / Description / Designazione dell' articolo
QR 2701,Q 504	346-90100.956		DTC 144 F
Q 1044/45/47,1191	344-90100.957	SMD	DTC 144 K
Q 1035	344-90117.976	SMD	FMW 1
Q 1034	346-90138.909		FMS 2
Q 141,142	346-90125.957		PT 483 F 1
QR 201-03,301/02	346-90105.923		RT 1 N 241 S
QR 1801			
QR 702-705	346-90105.928		RT 1 N 441 S
Q 404,512,QR 701	346-90109.933		RT 1 P 441 S
Q 506	346-90105.927		RT 1 P 441 S
IC 504,509	349-90064.912		BA 4558
IC 1802	349-90098.909		BA 4560
IC 902	349-90125.955		BA 6209
IC 803	349-90125.952	M	BA 6993
IC 351	349-90066.937		BA 7025 L
IC 401	349-90134.971		BA 7720 S
IC 502	349-90125.946		BA 7755
IC 604	349-90135.984		BX 7506
IC 904	349-90137.984		BX 7570
IC 141,142	349-90104.999		DN 6851
IC 1002	350-90132.925	SMD	HA 11535
IC 501	349-90135.908		HA 12117 NT
IC 503	349-90135.927		HA 12118 NT
IC 603	349-90114.900	M	HA 13403
IC 1030	350-90135.952	SMD	HD 14053 BFP
IC 601	349-90125.948	M	HD 49716 NT
IC 901	349-90134.934		HD 614088 SB 99
IC 2701	349-90134.919		HD 4074008 F
IC 204	349-90125.944		HES 8020 A
IC 903	349-90134.972		HES 8029
IC 100	349-90135.983		HES 8050
IC 1505	349-90113.961		HT 4619 A
IC 203	349-90125.943		HT 4664 A
IC 1029	349-90136.993		HT 4683 B
IC 301	349-90125.945	M	HT 4809
IC 201	349-90125.941	M	HT 4847 F
IC 202	349-90125.942		HT 4848 B
QF 801,802	349-90122.933		IC-Protector
IC 1801	349-90098.912		IR 3 P 02
IC 852	349-90136.921		L 780 S 05
IC 1803	349-90114.901		LA 1150 N
IC 606,1501-04	349-90104.979		LA 7016
IC 1016-18	349-90136.938		M 5 M 4 C 500 L
IC 507L,507R	349-90113.990		M 5201 L
IC 403/05/51/52	349-90070.997		M 5218 L
IC 771			
IC 853	349-90137.937		M 5279 L 06
IC 1401	349-90136.908		M 50455-003 SP
IC 1008	349-90135.985		M 50747 FP
IC 701	349-90136.902		M 50955-679 SP
IC 402	349-90134.990		M 51131 L
IC 1004/06	349-90135.928		M 51271 SP
IC 1005	349-90135.947		M 51272 FP
IC 1031	349-90143.916		M 51489 L
IC 404	349-90144.910		M 51659 L
IC 1011,1012	349-90135.946		M 52678 P
IC 1025-1027	349-90136.925		M 52679 P
IC 602	349-90129.955	M	M 54874 P
IC 702	349-90125.949	M	M 58630 P
IC 1007	349-90135.966		M 65011 FP
IC 605	349-90070.992	M	MSM 5258 RS
IC 1003	349-90135.909		NJM 2217 L
IC 1402	349-90136.922		NJM 2229 S
IC 1013-1015, IC 1019-1021	349-90134.986		NJU 74 HC 153 M
IC 1009/10/22-24	349-90136.903		NJU 74 HC 157 M
IC 703	349-90125.950		S 8053 ALB
IC 1032	349-90137.938		S 8054 ALR
IC 851	349-90125.953		STK 5372 H
IC 1001	349-90134.991		TC 74 HC 4053 AF
IC 801	349-90125.951	M	UPC 1484 CA
IC 802	349-97991		UPC 7805 H
IC 1028	349-90134.966		UPD 74 HC 221 AG

Pos.-Nr / Item No / No. Pos	Bestell-Nr / List Part No / No. di codice		Bestell-Bezeichnung / Description / Designazione dell'articolo
D 802,856-859	352-90113.952		1 SR 35-100 A
D 921	352-90070.929		1 SS 119 P
D 201-08,301-03, D 401/02,501,601- D 612,615-620/27, D 636,701-22/26, D 734-36,801/03, D 804/54/55/60	352-90104.978		1 SS 254
D 902-04,908-10, D 913-20,1401-07, D 1501-04,1801/02, D 2701,2705-07	352-90104.978		1 SS 254
D 209,503/09/10, D 512,513	352-90115.914		1 SS 254
D 805,806	352-90125.940		1 SS 130
D 1002/05/06/07	344-90131.916	SMD	DAN 202 K
D 851,853	352-90134.982		D 3 SBA 10
ZD 851,852	352-90109.925		HZ 7 B 2
ZD 351	352-90076.978		HZ 6 A 2
ZD 501,502	352-90055.932		HZ 9 A 2
ZD 503,801	352-90131.912		HZ S 4
ZD 803,804	352-90125.966		HZ S 5 C 2
ZD 401-403	352-90136.919		HZ S 6 A 3
ZD 902,903	352-90136.906		HZ S 6 C 2
ZD 703	352-90134.999		HZ S 7 B
ZD 901	352-90125.967		HZ S 9 A 2
ZD 701	352-90135.903		HZS 9 B 3
ZD 1651	352-90125.964		HZS 15-3
ZD 802,805	352-90125.968		HZS 30
D 1001,1004	352-90135.962		MA 714
ZD 702	352-90125.965		RD 2,7 E-B 2
D 852	352-90070.983	M	S 1 WD
DG 701	353-90125.971		Display (Digitron)
D 141	353-90125.937	LED	GL 451
LV 701	353-90134.922	LED	LI 2242 HD, Aussteuerungs-Anzeige/record level display/ indicazioni di comando
D 757	353-90070.922	LED	SEL 2213 C,rot ,Nachvertonungs-Anzeige / dubbing indicator,red indicazione del doppiaggio,rosso
D 752-755,758	353-90070.921	LED	SEL 2413 E,grün ,Anzeige für Ton-Kanal,HiFi,Stereo,Zweiton indicator for audio channel,green,Hifi,stereo bilingual / indicazione del canale audio di uscita,verde Hifi,stereo,due canali di uscita
D 751	353-90125.939	LED	SLH 34 MT 3 , Betriebsanzeige / power indicator / indicatore di funzionamento
L 303	297-90105.913		Drossel 10 µH choke / bobina d'arresto
L 311	297-90098.932		Drossel 10 µH " " "
L 1801	297-90098.924		Drossel 12 µH " " "
L 302	297-90109.929		Drossel 15 µH " " "
L 310	297-90114.907		Drossel 15 µH " " "
L 1802	297-90098.925		Drossel 15 µH K choke / bobina d'arresto
L 306	297-90105.917		Drossel 27 µH " " "
L 202,1404	297-90109.928		Drossel 33 µH J " " "
L 205,1406	297-90081.965		Drossel 33 µH K " " "
L 213	297-90109.930		Drossel 39 µH " " "
L 305	298-90136.941		Drossel 39 µH choke / bobina d'arresto
L 1405	298-90118.952		Drossel 47 µH K " " "
L 206,210,304	297-90114.912		Drossel 56 µH " " "
L 204	297-90122.940		Drossel 82 µH " " "
L 201/03/07/08/09, L 212,351,501,901, L 1401-03,1501/02, L 1530,1591	297-90081.962		Drossel 100 µH K " " "
L 505,1630	297-90105.919		Drossel 100 µH choke / bobina d'arresto
L 1002/03/05/06 L 1008,1014-18, L 1020-1024	298-90100.932		Drossel 100 µH K " " "

Pos.-Nr / Item No. / No. Pos.	Bestell-Nr / List Part No. / No. di codice	Bestell-Bezeichnung	Description / Designazione dell' articolo
L 211,309	297-90081.968	Drossel 220 µH K	choke / bobina d'arresto
L 308	297-90105.918	Drossel 220 µH	" " "
L 504	297-90114.911	Drossel 820 µH K	" " "
L 307,771	297-90081.964	Drossel 821 µH K	" " "
L 506	297-90131.900	Drossel 5600 µH	" " "
L 502,503	297-90081.970	Drossel 15000 µH	choke / bobina d'arresto
L 301	298-90129.985	Drossel 8,2 mH	" " "
CP 1501	297-90129.992	Spule	coil / bobina
L 352	297-90130.925	Spule	" "
L 401L,401R	297-90137.955	Spule	" "
T 501	297-90134.984	Spule	" "
T 502	297-90135.922	Spule	" "
L 1010	297-90138.911	Spule 12 µH K	coil / bobina
L 1009,1013	297-90137.956	Spule 100 µH K	" "
CP 1803	297-90098.919	Spule 55 KHz	" "
CP 203	297-90129.991	Spule 4,43 MHz	" "
CP 351	386-90081.957	Bandpaß-Filter	/ band pass filter / filtro passa-banda
CP 401L,401R	290-90114.919	Bandpaß-Filter	/ " " " " " "
CP 1001,1002	290-90137.944	Bandpaß-Filter	" " " " " "
CP 1801/02/05	290-90098.921	Bandpaß-Filter	/ " " " " " "
CP 301	290-90105.937	Bandpaß-Filter 4,43 MHz	/band pass filter/filtro passa banda
BL 501-504	290-90137.957	Filter	/ filter / filtro
BL 1001,1002	290-90137.972	Filter	/ " "
CF 1801	290-90098.937	Filter	/ " "
CF 1802	290-90098.936	Filter	/ " "
CP 201	290-90129.989	Filter 4,4 MHz	/ filter / filtro
CP 1007/08/09/32/37	290-90137.991	Filter	/ filter / filtro
CP 1804	290-90098.935	Filter	/ " "
L 851	290-90113.972	Filter	/ " "
CE 901	386-90122.941	Keramik Filter 4 MHz	/ ceramic filter / filtro ceramico
CP 202	290-90129.990	Tiefpaß-Filter	/ low pass filter / filtro passa-basso
CP 204	290-90105.934	Tiefpaß-Filter 3,6 MHz	/ low pass filter / filtro passa-basso
CP 502,504	290-90114.917	Tiefpaß-Filter	/ low pass filter / filtro passa-basso
CP 503	290-90114.918	Tiefpaß-Filter	/ " " " " " "
CP 1003-1005	290-90133.960	Tiefpaß-Filter	/ " " " " " "
CP 1038	290-90137.986	Tiefpaß-Filter	/ " " " " " "

Verzögerungsleitungen / Delay line / Linea di ritardo

CP 302	291-90133.929	
CP 1006	291-90134.921	
T 850	490-90134.935	Netztrafo / power transformer / trasformatore di rete
X 702	385-90130.901	Quarz 32 KHz / quartz / quarzo
X 1005,1402	385-90130.913	Quarz 500 KHz / " "
X 1603	385-90114.913	Quarz 3,58 MHz / " "
X 701	385-90129.945	Quarz 4 MHz / " "
X 1003,2701	385-90134.920	Quarz 8 MHz / " "
X 1001,1002	385-90134.930	Quarz 17,7 MHz / " "
X 1401	385-90118.932	Quarz 17,7 MHz / " "
X 1004	385-90136.911	Quarz 20 MHz / " "
S 752,756-758	467-90115.955	**Druckschalter** push switch l'interruttore a pulsante
S 141	467-90125.973	**Schiebeschalter** slide switch l'interruttore a cursore
S 142	467-90125.974	**Schiebeschalter** slide switch l'interruttore a cursore
S 755	467-90134.923	**Schiebeschalter** Audio/Mix-HiFi-Norm slide switch audio selection l'interruttore a cursore selezione audio
S 1501,1502	467-90135.904	**Schiebeschalter** slide switch l'interruttore a cursore

Pos.-Nr. Item No. No. Pos.	Bestell-Nr. List Part No. No. di codice	Bestell-Bezeichnung / Description / Designazione dell' articolo					
S 701-07,710-14, S 716-19,722-27, S 737,751	467-90098.945	**Tastschalter** key switch commutatore a tasto					
130	291-90134.928	**Antennenbuchse Eingang/Ausgang** einzeln nicht lieferbar,dafür HF-Konverter komplett antenna socket -input/output (HF converter) presa di antenna-entrata/uscita (AF convertitore)					
119,J 501,502, J 504,505	323-90134.929	**Buchsenplatte Audio-Eingang/-Ausgang,Mic/Pause** socket plate audio input/output lastra di presa entrata/uscita audio					
005,J 771	398-90136.923	**Kopfhörerbuchse, vormontiert** headphone socket, mounted presa per cuffia, premontato					
RT 351	375-90125.931	470 Ohm					
RT 505	375-90134.978	1 K-Ohm					
RT 1401	375-90136.918	1 K-Ohm					
RT 1012,1013	375-90101.999	2,2 K-Ohm					
RT 301	375-90125.930	4,7 K-Ohm					
RT 801	375-90135.919	4,7 K-Ohm					
RT 1002/05/08/11	375-90102.902	4,7 K-Ohm					
RV 701	375-90104.975	10 K-Ohm					
RV 771	375-90113.984	10 K-Ohm					
RT 1006,1007	375-90081.977	10 K-Ohm					
RT 1803,1804	375-90133.931	10 K-Ohm					
RT 501L,501R,503, RT 1807	375-90133.911	47 K-Ohm					
RT 601	375-90125.933	47 K-Ohm					
RT 1003/09/10	375-90079.967	47 K-Ohm					
RV 501,502	375-90135.982	50 K-Ohm					Standbild-Synchronisation TV-still synchronisation sincronizzazione TV del fermoimmagine
RT 504	375-90135.964	100 K-Ohm					
RV 705	375-90136.905	100 K-Ohm					
RT 1801	375-90133.910	220 K-Ohm					
RT 602,605,606	375-90125.934	470 K-Ohm					
RT 1802	375-90133.924	470 K-Ohm					
RV 703	375-90104.976	500 K-Ohm					
R 659	367-90137.936	⚠	0,47	Ohm	J	0,5	W
R 574	366-90135.945	⚠	2,2	Ohm	J	0,25	W
R 900	372-90081.991		4,7	Ohm			
R 1803	366-90081.988	⚠	22	Ohm	J	0,25	W
R 837	367-90129.923	⚠	22	Ohm	J	0,5	W
R 1823	366-90137.942	⚠	68	Ohm	J	0,5	W
R 307	367-90081.986		68	Ohm	J	1	W
C 716	363-90104.969	22	pF				Trimmer
CT 1001,1002	363-90102.931	90	pF				Trimmer
C 1098,1104	360-90117.931	0,01	µF	16	V		
C 714	360-90138.906	0,1	µF	50	V		
C 1014	360-90137.953	0,1	µF	50	V		
C 606	360-90137.927	0,22	µF	50	V		
C 402L,431L,1018	360-90134.911	0,47	µF	50	V		
C 402R,431R,713,801	360-90132.939	0,47	µF	50	V		
C 1582	360-90133.950	0,47	µF	50	V		
C 609	360-90132.934	1	µF	35	V	K	
C 306,415R,417/29, C 505,1401/14/15	360-90132.947	1	µF	50	V		
C 413,415L,430, C 536,1017/25/28, C 1045/56/62/73, C 1084/88,1123/41, C 1179/80,1425	360-90132.929	1	µF	50	V		
C 883,1827/30/31, C 1842	360-90133.918	1	µF	50	V		
C 1037	360-90137.973	1	µF	50	V		

Pos.-Nr. Item No. No. Pos.	Bestell-Nr. List Part No No. di codice	Bestell-Bezeichnung	Description Designazione dell' articolo
C 1115	360-90137.935	1000 µF 6,3 V	
C 884	360-90137.934	1000 µF 16 V	
C 1803	360-90081.999	2200 µF 16 V	
C 880	360-90137.932	3300 µF 16 V	
C 876	360-90137.929	4700 µF 35 V	
C 701	360-90129.993	22000 µF 5 V	
804	169-90114.947	**Audio-Verbindungsleitung** audio connecting line linea di collegamento audio	
135	171-90137.950	**HF-Verbindungsleitung** HF connecting line AF linea di collegamento	
802	169-90098.963	**Koax-Antennenkabel** coaxial antenna cable cavo coassiale di antenna	
120	170-90134.931	**Netzkabel** power cable cavo a rete	
F 853,855	380-21922	T 0,315 A 250 V 5 x 20	
F 850	380-42588	T 1 A 250 V 5 x 20	
F 852	380-14576	T 1,6 A 250 V 5 x 20	
F 851	380-90082.908	T 2,5 A 5 x 20	

Gehäuse + Montageteile / Cabinet mounting + Montageparts / Accessóri per mobile

118	568-90135.924	**Abdeckgitter** cover lattice traliccio di copertura	
108	756-90135.906	**Abdeckung mit Beschriftung, oben** cover with lettering, top copertura con dicitura, sopra	
117	568-90105.950	**Abdeckung** cover copertura	für Sicherung for fuse per fusibili
127	568-90135.911	**Abdeckung** cover copertura	für LED/Aussteuerung for LED level control per modulazione LED
128	756-90134.937	**Abdeckung mit Beschriftung, unten** cover with lettering, bottom copertura con dicitura, sotto	
140	509-90137.945	**Abschirmblech** screening sheet lamiera schermante	
141	509-90137.963	**Abschirmblech** screening sheet lamiera schermante	
103	777-90134.924	**Bodenplatte** bottom plate piastra di fondazione	
119	323-90134.929	**Buchsenplatte** Audio Eingang/-Ausgang socket plate audio-input/output lastra di presa entrata/uscita audio	
172	549-90137.964	**Chassis-Montagerahmen** chassis mounting frame chassis telaio di montaggio	
116	421-90130.954	**Distanzbolzen** spacer bolt bullone de distanza	
132	506-90137.958	**Distanzstück** spacer piece distanziale	
133	506-90137.959	**Distanzstück** spacer piece distanziale	
134	506-90137.960	**Distanzstück** spacer piece distanziale	
121	409-90080.936	**Durchführungstülle** lead through socket connettore di testa	
107	704-90134.926	**Frontblende,schwarz,vormontiert** front frame,black,mounted telaio frontale,nero,premontato	

Pos.-Nr. Item No. No. Pos	Bestell-Nr. Part No. No. di codice	Bestell-Bezeichnung / Description / Designazione dell' articolo	
101	753-90137.948	**Gehäuse-Abdeckung** cabinet cover copertura per mobile	
122	602-90130.944	**Halter** holder supporto	für Display for display per display
126	602-90137.947	**Halter** holder supporto	für LED for LED per LED
146	602-90138.943	**Halter** holder supporto	für Timerplatte for timer P.C.B. per piastra timer
173	602-90137.961	**Halteblech** supporting sheet lamiera di sostegno	
174	602-90137.962	**Halteblech** supporting sheet lamiera di sostegno	
135	171-90137.950	**HF-Verbindungsleitung** HF connecting line AF linea di collegamento	
123	577-90082.923	**Isolierhülse** insulating sleeve rivestimento isolante	für Quarz X 101
109	568-90129.958	**Klappe** flap coperchio	für Cassettenfach for cassette compartment per vano cassette
138	568-90134.927	**Klappe** flap coperchio	für Bedienfeld for control panel p.tastiera di comando
106	453-90137.951	**Kstst.-Spreizniet** spread rivet rivetto espansione	
130	291-90134.928	**Modulator,kpl. mit Ant.-Buchsen u.Schalter** modulator,assy with antenna sockets + switches modulatore,completo con presa di antenna +interruttore	
102	410-90125.989	**Moosgummi-Zuschnitt** rubber foam cut gomma pezzo	
120	170-90134.931	**Netzkabel** power cable cavo a rete	
131	260-90129.948	**Tuner/ZF-Block** tuner IF unit tuner FI unità	
145	715-90137.946	**Typenschild OC 570 H / 66557** type plate / piastra di modello	
Bedienungsknöpfe / Control buttons / Bottone di comando			
143	684-90134.936	**Schiebeknopf** Audio/Mix-HiFi-Norm slide button audio selection bottone scorrevole selezione audio	
144	681-90125.977	**Drehknopf** ,f.Kopfhörer-Lautstärke,Spurlage,Bild/weich-hart rotary button f.headphone-volume,tracking,picture soft/hard manopola p.volume dell'auricolare,posizione pista,immagine sfumata/nitida	
Federn / Springs / Molla			
206	727-90132.937	**Drehfeder** torsion spring molla di torsione	
242	727-90133.976	**Drehfeder** torsion spring molla di torsione	
205	726-90080.989	**Druckfeder** pressure spring molla di compressione	
209	725-90133.938	**Zugfeder** tension spring molla trattiva	
226	725-90130.969	**Zugfeder** tension spring molla trattiva	

Pos.-Nr. / Item No. / No. Pos	Bestell-Nr. / List Part No. / No. di codice	Bestell-Bezeichnung / Description / Designazione dell' articolo
229	725-90136.912	**Zugfeder** tension spring molla trattiva
232	725-90132.916	**Zugfeder** tension spring molla trattiva
247	725-90133.957	**Zugfeder** tension spring molla trattiva
251	725-90132.945	**Zugfeder** tension spring molla trattiva
418	725-90132.978	**Zugfeder** tension spring molla trattiva
421	725-90137.989	**Zugfeder** tension spring molla trattiva
409	725-90134.901	Feder/spring/molla
Köpfe,Kopfscheibe / Heads / Testina		
204	281-90125.990	**Audiokopf** audio head testina audio
501	613-90134.941	**Kopfrad** head wheel ruota di testa
223	281-90125.996	**Löschkopf** erase head testina di cancellazione
Motoren / Motors / Motore		
301	269-90134.940	**Capstan-Motor** capstan motor motore capstan
235	269-90135.976	**Einfädelmotor, vormontiert** threading motor infilare motore
502	269-90135.910	**Kopfrad-Motor** head wheel motor motore ruota di testa
Riemen / Drive belt / Cinghia di trasmissione		
303		407-90139.931
Laufwerkteile / Drive mechanism parts / Meccanismo di scorimento		
503	309-90099.906	**Ableitkontakt** lead off contact contatto derivare
214	633-90125.994	**Andruckrolle mit Hebel** pressure roller with lever rullo pressore con leva
224	615-90131.926	**Ausgleichsrolle mit Hebel** compensating roller with lever rullo compensatore con leva
225	640-90134.974	**Bandführungsbuchse** tape guide sleeve boccola di guidanastro
255	640-90129.996	**Bandführungsbuchse** tape guide sleeve boccola di guidanastro
220	615-90132.973	**Bandführungsrolle** tape guide roller rullo di guidanastro
219	619-90131.981	**Bandführungsschlitten (IN)** tape guide sledge slitta di guidanastro
221	619-90135.994	**Bandführungsschlitten (OUT)** tape guide sledge slitta di guidanastro

Pos.-Nr. / Item No. / No. Pos.	Bestell-Nr. / List Part No. / No. di codice	Bestell-Bezeichnung / Description / Designazione dell' articolo
228	563-90125.998	**Bandzugfühlhebel** tape tension lever leva di nastro passante
203	547-90132.942	**Basisplatte** base plate lastra de base
216	547-90131.982	**Basisplatte** base plate lastra de base
227	565-90131.944	**Bremsband** brake rippon nastro di freno
412	602-90133.977	**Cassettenhalterung-Montagesatz** mounting set for cassette holder gruppo di montaggio p.cassetta supporto
425	602-90133.958	**Chassishalterung** chassis holder supporto chassis
201	545-90137.987	**Chassisplatte** chassis plate lastra de chassis
423	602-90132.928	**Fronthalterung** front holder supporto di telaio frontale
402	269-90137.988	**Getriebeblock** gear unit l'organo di comando
230	602-90132.922	**Halter** holder supporto
244	602-90133.965	**Halter** holder supporto
208	563-90125.991	**Hebel** lever leva
231	563-90132.935	**Hebel** lever leva
233	563-90130.917	**Hebel** lever leva
234	563-90133.966	**Hebelarm** lever arm braccio della forza
217	563-90129.995	**Hebel,vormontiert** lever, mounted leva,premontato
218	563-90130.951	**Hebel,vormontiert** lever,mounted leva,premontato
215	552-90133.956	**Kstst.-Montagebrücke** plastic mounting bridge ponte per montaggio,plastico
302	619-90129.904	**Kupplungseinheit** clutch unit unitâ della frizione
222	552-90132.954	**Montagebrücke** mounting bridge ponte per montaggio
416	563-90132.962	**Rasthebel** stop lever leva di arresto
424	624-90132.950	**Synchronachse** synchronous shaft asse sincrono
210	612-90134.938	**Wickelteller, links** take up reel, left il rullo avvolgitore, sinistra
212	612-90125.993	**Wickelteller, rechts** take up reel, right il rullo avvolgitore, destra
305	617-90132.931	**Zahnsegment** toothed segment segmento dentato
302	615-90139.932	Take-up Pulley

Pos.-Nr. / Item No. / No. Pos	Bestell-Nr. / List Part No. / No. di codice	Bestell-Bezeichnung / Description / Designazione dell' articolo	
304	611-90139.930	**Zwischenrad, vormontiert** idler wheel, mounted ruota intermedia, premontato	
408	563-90134.900	Hebel/lever/leva	
Muttern,Scheiben,Schrauben / Nuts,Discs,Screws / Madrevite,Disco,Vite			
202	430-90132.923	**Kegelmutter** cone nut conica madrevite	
114	430-90137.949	**Mutter** nut madrevite	
207	430-90132.926	**Mutter** nut madrevite	
211	445-90131.979	**Kstst.-Scheibe** plastic disc disco plastico	
213	445-90131.998	**Kstst.-Scheibe** plastic disc disco plastico	
253	445-90129.998	**Kstst.-Scheibe** plastic disc disco plastico	
175	438-90083.948	**Blechschraube 3 x 10 mm** screw vite lamiera	
955	439-90115.947	**Gewindestift** threaded pin spina filettata	
961	439-90131.980	**Gewindestift** threaded pin spina filettata	
901,909	438-90080.949	**Schraube 3 x 12 mm schwarz** screw,black vite,nero	
902	438-90109.903	**Schraube 3 x 8 mm schwarz** screw,black vite,nero	
903	438-90120.907	**Schraube,schwarz** screw,black vite,nero	
904	438-90083.947	**Senkkopfschraube 3 x 8 mm schwarz** sunk screw,black vite a testa piana,nero	
Verpackung,Beipack / Packing,Accessories / L'imballaggio,Apparecchio supplemento			
852,853	252-90134.944	**Packschalen-Satz** polyfoam packing set imballaggio plastico	
851	246-90134.942	**Verpackungskarton** packing l'imballaggio	
804	169-90114.947	**Audio-Verbindungsleitung** audio connecting line linea di collegamento audio	
	280-74576	**Batterie 1,5 V** battery batteria	für Fernbedienung 2 x for remote control per telecomando
803	263-90129.919	**IR-Geber FB 500** IR transmitter trasmettitore IR	
802	169-90098.963	**Koaxial-Antennenkabel** coaxial cable cavo coassiale	
	240-90134.994	**Aufkleber mit Symbolerklärung** adhesive label etichetta	für FB 500
801	233-16894	**Bedienungsanleitung** operating instructions istruzioni per l'uso	
	230-90136.981	**Service-Anleitung** service manual / istruzioni per la manutenzione	

Pos -Nr / Item No / No Pos	Bestell-Nr / List Part No / No di codice	Bestell-Bezeichnung	Description / Designazione dell' articolo

Teile für IR-Fernbedienung / Parts for IR transmitter / Parti per trasmettitore IR

2	756-90136.998	**Abdeckung mit Fenster** cover with window copertura con finestra
5	568-90137.968	**Batteriefachdeckel** battery compartment lid coperchio p.cassetta batteria
6	309-90137.969	**Batteriekontakt (+/-)** battery contact contatto di batteria
1	756-90137.966	**Gehäuse-Oberteil** cabinet upper part parte superiore del mobile
8	756-90138.912	**Gehäuse-Unterteil** cabinet lower part parte inferiore del mobile
3	309-90137.967	**Kontaktmatte** contact mat stuoia di contatto
7	438-90137.970	**Senkblechschraube,schwarz** sunk screw,black vite a testa piana,nero

M = MOS/FET (Metall-Oxyd/Feld-Effekt)

Die mit einem -M- gekennzeichneten Positionen sind hochempfindlich. Sie bedürfen daher einer besonders vorsichtigen Behandlung. Um möglichen Schäden vorzubeugen, sollten diese bis zur Weiterverwendung in der Originalverpackung verbleiben.

M = MOS/FET (metal oxide/field effect)

The positions coded -M- are highly sensitive components which require particularly careful handling. As a precaution against damage they should remain in their original packing until used.

M = MOS/FET (ossido metallico/effetto di campo)

Le posizioni contrassegnate con -M- sono ultrasensibili. Esigono percio un trattamento particolarmente cauto. Per prevenire eventuali danni, e consigliabile lasciarle nelle confezioni originali fino al momento dell'utilizzo.

⚠ = Sicherungs-Schutzwiderstand
⚠ = protective resistor
⚠ = resistore di protenzione di sicurezza

T = Tauschteil
T = exchange
T = parte di scambio

Der Tauschpreis gilt nur dann, wenn die defekten Baugruppen in mechanisch einwandfreiem und elektrisch voll bestücktem Zustand angeliefert werden. Bitte verwenden Sie für den Versand eine entsprechend sichere Verpackung. Baugruppen mit mechanischen Schäden werden nicht zum Pauschalpreis repariert, sondern es wird der anfallende Reparatur-Aufwand berechnet. Ist die zurückgeschickte Baugruppe nicht mehr reparierbar, so liefern wir, soweit noch greifbar, ein Teil zum EHN-Preis.

The replacement repair price is valid only, if the defective components are returned in a mechanically good and an electrically fully mounted condition. Please use a safe kind of packing for the dispatch. Components with mechanical defects will not be repaired at the replacement price, but you will be charged with the repair-expenses. If the returned components cannot be repaired anymore, we will supply, if on stock, a part at the retail-price.

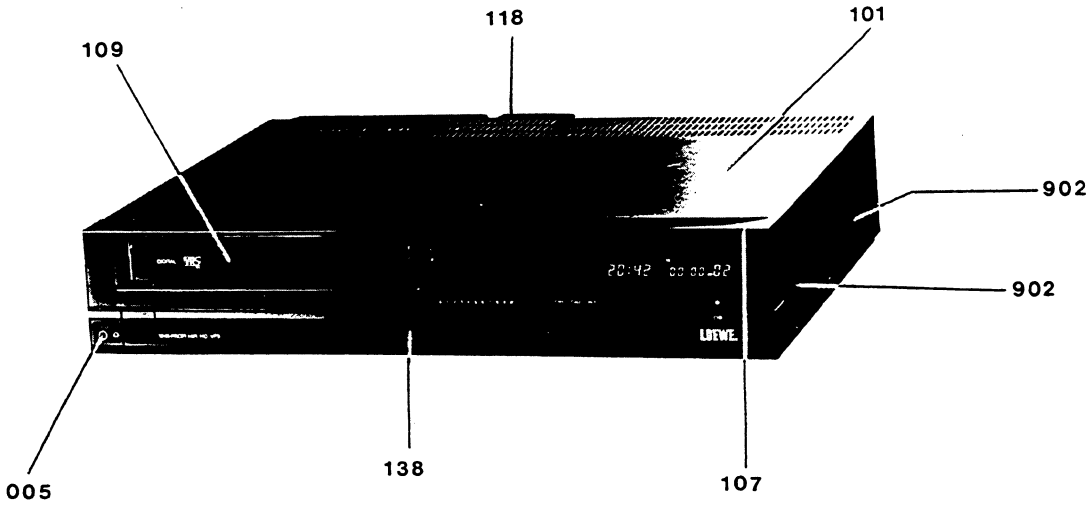
Il prezzo di scambio e valido solo nel caso che gli elementi costruttivi defettosi vengano consegnati in stato meccanicamente perfetto e con equipaggiamento elettrico completo. Per la spedizione, preghiamo di impiegare un imballaggio sicuro. Gli elementi costruttivi con danni meccanici non vengano riparati al prezzo forfettario, sara invece messo in conto il tempo di riparazione. Qualora l'elemento costruttivo rispedito fosso irreparabile, forniamo -se disponibile- un ricambio al prezzo al minuto.

* Verwendung je nach Fertigungsstand
* Use as production state
* Impiego a seconda di stato della produzione

Achtung! Nur unter Verwendung der von unseren Service-Stellen gelieferten Ersatzteile, wird die Funktion und Betriebssicherheit unserer Geräte gewährleistet. Die Lieferung von positionsgebundenen Ausweichteilen behalten wir uns vor.
Liefermöglichkeit und Änderungen vorbehalten !

Important! Proper function and reliability of our sets is only ensured if the spare parts supplied by our service stations are used. We reserve the right to supply alternative item-linked parts.
Subject to availability and modification!

Attenzione!
Solo impiegando i ricambio forniti dai nostri punti di assistenza, e garentito il funzionamento e la sicurezza d'esercizio dei nostri apparecchio. Ci riserviamo la forniture di pezzi di ripiego a determinate posizioni.
Con riserva di disponibilite e di modifiche!


118
101
109
902
902
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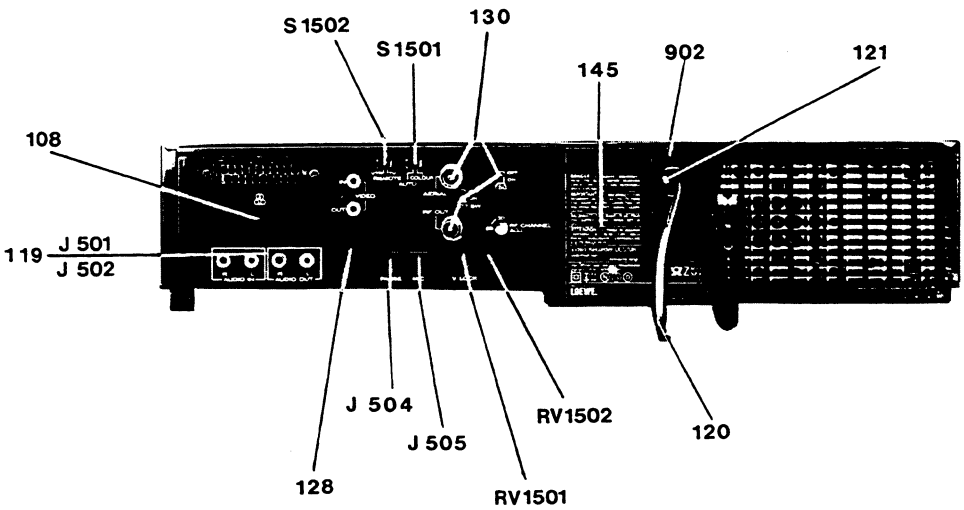
107


S1502
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J 502
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J 505
RV1502
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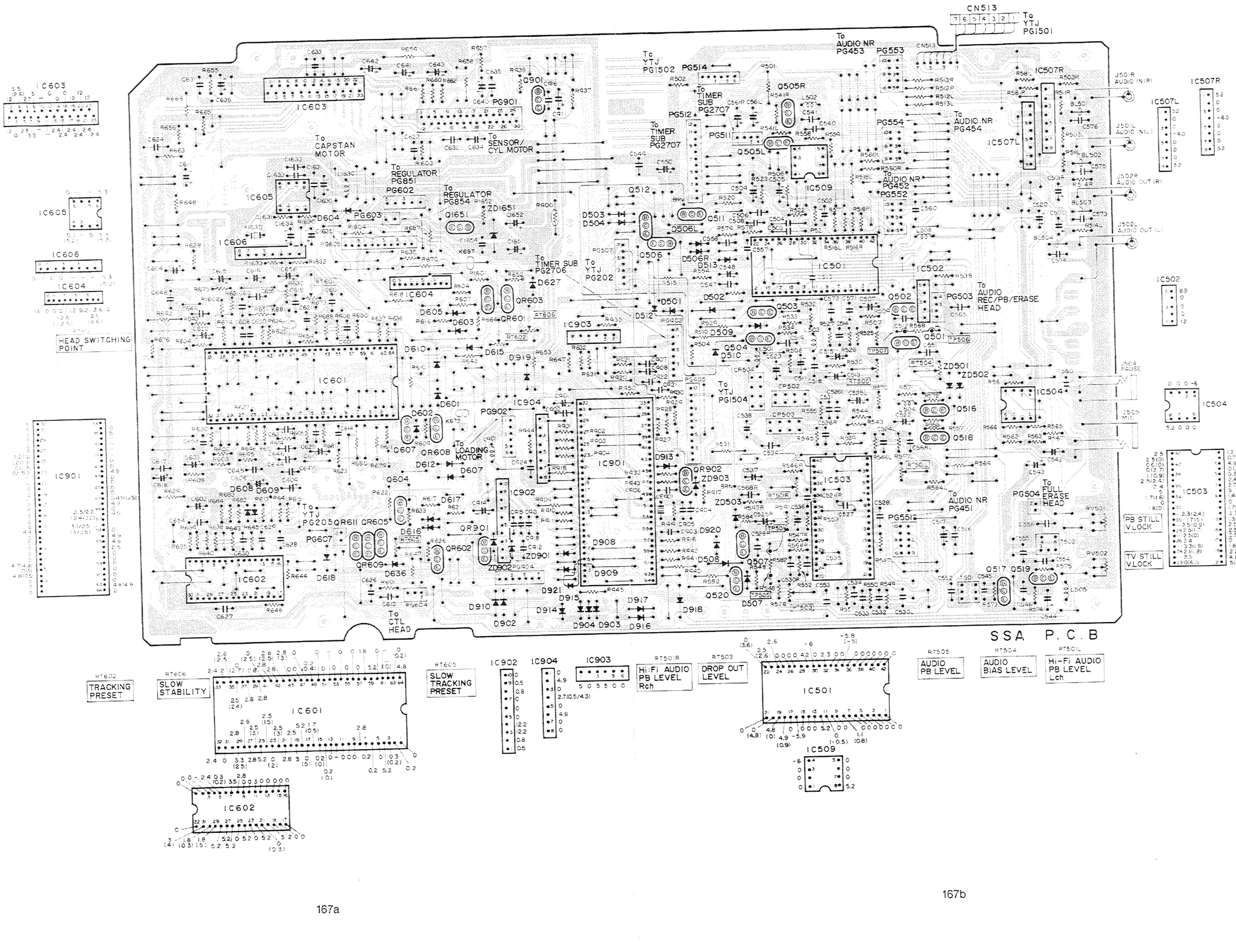
RV1501


CN513
To YTJ PG1501
To AUDIO NR PG453
PG553
To YTJ PG1502
PG514
To TIMER SUB PG2707
PG512
PG511
To TIMER SUB PG2707
PG554
To AUDIO NR PG454
To AUDIO NR PG452
PG552
To CAPSTAN MOTOR
To SENSOR/ CYL MOTOR
To REGULATOR PG851
PG602
To REGULATOR PG854
To TIMER SUB PG2706
To YTJ PG202
To YTJ PG1504
To AUDIO REC/PB/ERASE HEAD
PG503
To LOADING MOTOR
To YTJ PG2705
To CTL HEAD
To AUDIO NR PG451
To FULL ERASE HEAD
PG504
PG551
PG607
PG604
PG603
PG605
PG606
PG901
PG902
J501R AUDIO IN(R)
J501L AUDIO IN(L)
J502R AUDIO OUT(R)
J502L AUDIO OUT(L)
J503 PAUSE
J505 MIC
PB STILL V.LOCK
TV STILL V.LOCK
IC601
IC602
IC603
IC604
IC605
IC606
IC901
IC902
IC903
IC904
IC501
IC502
IC503
IC504
IC507L
IC507R
IC509
HEAD SWITCHING POINT
SSA P.C.B
RT602 TRACKING PRESET
RT606 SLOW STABILITY
RT605 SLOW TRACKING PRESET
RT501R Hi-Fi AUDIO PB LEVEL Rch
RT503 DROP OUT LEVEL
RT505 AUDIO PB LEVEL
RT504 AUDIO BIAS LEVEL
RT501L Hi-Fi AUDIO PB LEVEL Lch

167a

167b

RT1802 ST
RT1807 DC
RT1803 RCH
RT1801 BIL
RT1804 SEP
RT801 FH ADJUST
CP1803 BIL
CP1802 CH2 DET LEVEL
CP1805 CH1 DET LEVEL
CP1801 Q.SIGNAL DETECTION

To TIMER SUB PG2702

To SSA PG514

CN1501 To CHASSIS

To TIMER SUB PG2704

To REGULATOR Q1802 D1802

To SSA PG607

To SSA PG507

To TIMER SUB PG2703

To SSA PG905

To SSA PG2205

To SSA CN513

To PRE/REC AMP CN1

To DIGITAL PROCESS PG1002

TUNER UNIT

IF UNIT

RF CONVERTER

VIDEO
AUDIO
+ 12V

COLOR
AUTO

ON
OFF

VIDEO IN
J1501
VIDEO OUT

J1502

1	AUDIO(CH-1)
2	AUDIO(CH-2)
3	AUDIO(CH-1)
4	GND
5	GND
6	AUDIO(CH-1)
7	———
8	———
9	TV CONTROL
10	GND
11	———
12	———
13	———
14	GND
15	GND
16	———
17	GND
18	GND
19	VIDEO
20	VIDEO
21	GND

RT301 REC CHROMA LEVEL

RT351,L352 SECAM DETECT LEVEL

RT1401 CHARACTER POSITION

YTJ P.C.B

167c

167d

RT1002
SYNC POSITION
RT1003
TINT
RT1005
LUMA AMPLITUDE (Sub Screen Brightness)
RT1006
WHITE BALANCE
RT1007
WHITE BALANCE
RT1008
TINT
RT1009
CHROMA LEVEL
RT1010
TINT
RT1011
AGC LEVEL
MAIN SCREEN BRIGHTNESS
RT1012
BURST ANGLE

RT1013
BURST LEVEL

P IN P 4.43MHz

MULTI 4.43MHz

To YTJ (JACK) PG1403

To TIME SUB PG2701

To REGULATOR PG853

DIGITAL SUB P.C.B

: SOLDER SIDE

: PARTS SIDE

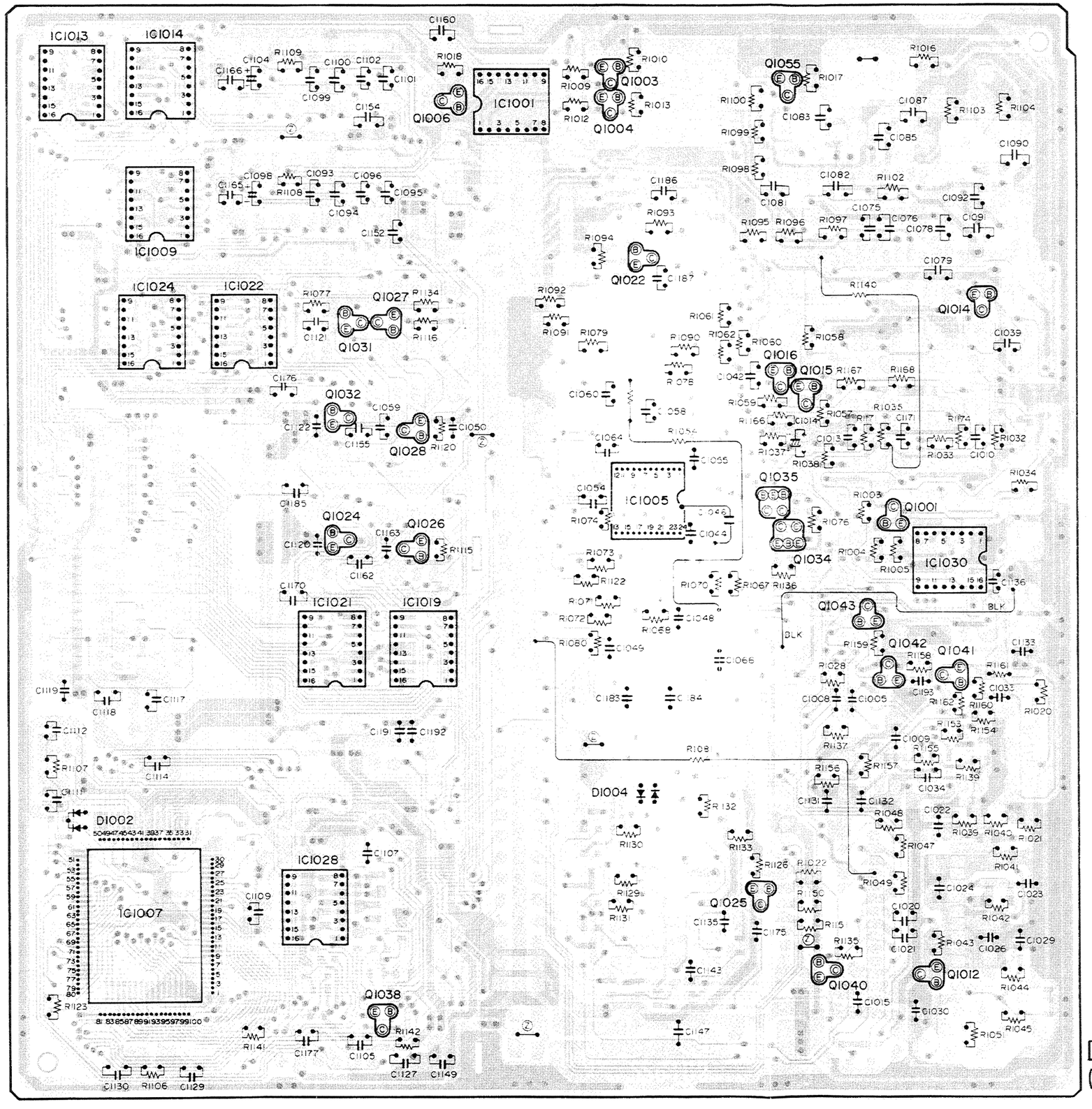
: THROUGH HOLE

※ NOTE : MARK "Ⓩ" IS LEADLESS (CHIP) JUMPER.

DIGITAL PROCESS P.C.B (COMPONENTS SIDE)

167e

167f



167g

: SOLDER SIDE

: PARTS SIDE

: THROUGH HOLE

※ NOTE MARK "Ⓩ" IS LEADLESS(CHIP) JUMPER

DIGITAL PROCESS P.C.B (SOLDER SIDE)

167h